**Manitoba**
**Energy and Mines**
Geological Services

Mineral Deposit Series

Report No. 4

# Mineral Deposits and Occurrences in the Manigotagan Lake Area, NTS 52L/13

by P. Theyer and P.H. Yamada
Winnipeg, 1988

Energy and Mines

Hon. Harold J. Neufeld
Minister

Ian Haugh
Deputy Minister

Minerals Division

Sobharam Singh
Assistant Deputy Minister

Geological Services
W. David McRitchie
Director

## TABLE OF CONTENTS


| | Page |
|---|---|
| INTRODUCTION | 1 |
| GENERAL GEOLOGY | 4 |
| SELECTED REFERENCES | 5 |
| Location 1 (Gold Lake) | 7 |
| Location 2 (Packsack Mine) | 11 |
| Location 3 (Moose) | 15 |
| Location 4 (Gold Pan Mine) | 19 |
| Location 5 (Gilbert) | 23 |
| Location 6 (Cupp) | 25 |
| Location 7 (Wolf) | 26 |
| Location 8 (Ranger) | 27 |
| Location 9 (Chicamon) | 31 |
| Location 10 (Pendennis) | 33 |
| Location 11 (Gold Vein) | 35 |
| Location 12 | 39 |
| Location 13 | 40 |
| Location 14 | 41 |
| Location 15 (Yankee Girl) | 43 |
| Location 16 (Sosueme) | 45 |
| Location 17 (Geneva) | 49 |
| Location 18 (Cliff) | 50 |
| Location 19 (Rice Lake Gold Mines #2 and #4 Zones) | 51 |
| Location 20 (Rice Lake Gold Mines #3 Zone) | 53 |
| Location 21 (Rice Lake Gold Mines #5 Zone) | 55 |
| Location 22 (Rice Lake Gold Mines #6 Zone) | 57 |
| Location 23 (Rice Lake Gold Mines #7 Zone) | 58 |
| Location 24 (Rice Lake Gold Mines #8 Zone) | 59 |
| Location 25 (Rice Lake Gold Mines #9 Zone) | 60 |
| Location 26 (Rice Lake Gold Mines #10 Zone) | 61 |
| Location 27 | 63 |
| Location 28 (Ranger Gold Mines #2 Zone) | 64 |
| Location 29 (Ranger Gold Mines #3 Zone) | 65 |
| Location 30 (Ranger Gold Mines #6 Zone) | 67 |
| Location 31 (Ranger Gold Mines #7 Zone) | 69 |
| Location 32 (Ranger Gold Mines #8 Zone) | 71 |
| Location 33 | 73 |
| Location 34 (Fox) | 74 |
| Location 35 (Ranger Gold Mines #12 Zone) | 75 |
| Location 36 (September Morn) | 77 |
| Location 37 (Brooklyn #1000) | 79 |
| Location 38 (Brooklyn #2000) | 81 |
| Location 39 | 83 |
| Location 40 | 85 |
| Location 41 | 87 |
| Location 42 | 89 |
| Location 43 (Sheila) | 91 |
| Location 44 (Josephine - Mildred) | 93 |
| Location 45 | 95 |
| Location 46 | 97 |

Page

APPENDIX I: Location of mineral deposits and occurrences recorded on airphotos . . . . . 99

## FIGURES

Figure 1: Location of mineral deposits and occurrences (NTS 52L/13) . . . . . vi
Figure 1-1: Geological setting of the Gold Lake occurrence (location 1) . . . . . 6
Figure 1-2: Detailed geology, trench and sample locations at the Gold Lake occurrence (location 1) . . . . . 8
Figure 2-1: Geological setting of the Packsack Mine (location 2) . . . . . 10
Figure 2-2: Detailed geology, trench and sample locations at the Packsack Mine (location 2) . 12
Figure 3-1: Geological setting of occurrence 3 (Moose) and the Gold Pan Mine (location 4) . . 16
Figure 3-2: Geology, drill hole and sample locations at occurrence 3 (Moose) . . . . . 18
Figure 4-1: Detailed map of the Gold Pan Mine (location 4) . . . . . 20
Figure 5-1: Geological setting of occurrences 5 (Gilbert), 6 (Cupp), and 7 (Wolf) . . . . . 22
Figure 5-2 Detailed geology and trench locations at occurrence 5 (Gilbert) . . . . . 23
Figure 6-1: Detailed geology and trench locations at occurrence 6 (Cupp) . . . . . 24
Figure 8-1: Geological setting of occurrences 8 (Ranger) and 9 (Chicamon) . . . . . 28
Figure 8-2: Geology, drill hole, trench and sample locations at occurrence 8 (Ranger) . . . . . 29
Figure 9-1: Geology of occurrence 9 (Chicamon) . . . . . 30
Figure 10-1: Geological setting of occurrence 10 (Pendennis) . . . . . 32
Figure 10-2: Geology, trench and sample location at occurrence 10 (Pendennis) . . . . . 34
Figure 11-1: Geological setting of occurrence 11 (Gold Vein) . . . . . 36
Figure 11-2: Trench and sample location at occurrence 11 (Gold Vein) . . . . . 37
Figure 12-1: Geological setting of occurrences 12 and 13 . . . . . 38
Figure 14-1: Geological setting of occurrence 14 . . . . . 42
Figure 15-1: Geological setting of occurrence 15 (Yankee Girl) . . . . . 44
Figure 16-1: Geological setting of occurrence 16 (Sosueme) . . . . . 46
Figure 16-2: Geology and sample locations at occurrence 16 (Sosueme) . . . . . 47
Figure 17-1: Geological setting of occurrences 17, 18, 19, 20 and 21 . . . . . 48
Figure 19-1: Trench, pit and sample locations at occurrence 19 (Rice Lake Gold Mines #2 and #4 zones) . . . . . 52
Figure 20-1: Geology and sample locations at occurrence 20 (Rice Lake Gold Mines #3 zone) . . . . . 54
Figure 22-1: Geological setting of occurrences 22, 23, 24 and 25 . . . . . 56
Figure 26-1: Geological setting of occurrences 26, 27, 28, 29, and 30 . . . . . 62
Figure 29-1: Sample and pit locations at occurrence 29 (Ranger Gold Mines #3 zone) . . . . . 66
Figure 31-1: Geological setting of occurrences 31, 32, 33, 34 and 35 . . . . . 68
Figure 31-2: Trench locations at occurrence 31 (Ranger Gold Mines #7 zone) . . . . . 70
Figure 32-1: Trench locations at occurrence 32 (Ranger Gold Mines #8 zone) . . . . . 72
Figure 36-1: Geological setting of occurrence 36 (September Morn) . . . . . 76
Figure 36-2: Geology, sample and pit locations at occurrence 36 (September Morn) . . . . . 76
Figure 37-1: Geological setting of occurrences 37 (Brooklyn #1000), and 38 (Brooklyn #2000) . . . . . 78
Figure 37-2: Shaft, pit and sample locations at occurrence 37 (Brooklyn #1000) . . . . . 80
Figure 39-1: Geological setting of occurrence 39 . . . . . 82
Figure 40-1: Geological setting of occurrence 40 . . . . . 84
Figure 41-1: Geological setting of occurrence 41 . . . . . 86
Figure 42-1: Geological setting of occurrence 42 . . . . . 88
Figure 43-1: Geological setting of occurrences 43 (Sheila) and 44 (Josephine-Mildred) . . . . . 90
Figure 43-2: Trench and sample locations at occurrence 43 (Sheila) . . . . . 92
Figure 44-1: Trench and sample locations at occurrence 44 (Josephine-Mildred) . . . . . 94
Figure 45-1: Geological setting of occurrence 45 . . . . . 96

Page

Figure 46-1: Geological setting of occurrence 46 . . . . . 98

TABLES

Table 1: Mineral deposit types . . . . . 2
Table 1-1: Gold analyses; mineral occurrence at location 1 . . . . . 7
Table 2-1: Grab samples; mineral occurrence at location 2 . . . . . 13
Table 3-1: Gold analyses; mineral occurrence at location 3 . . . . . 15
Table 4-1: Gold analyses; Gold Pan Mine . . . . . 19
Table 6-1: Gold analyses; mineral occurrence at location 6 . . . . . 25
Table 8-1: Gold analyses; Ranger mineral occurrence . . . . . 27
Table 9-1: Gold analyses; mineral occurrence at location 9 . . . . . 31
Table 36-1: Gold analyses; mineral occurrence at location 36 . . . . . 77
Table 44-1: Gold analyses; mineral occurrence at location 44 . . . . . 93

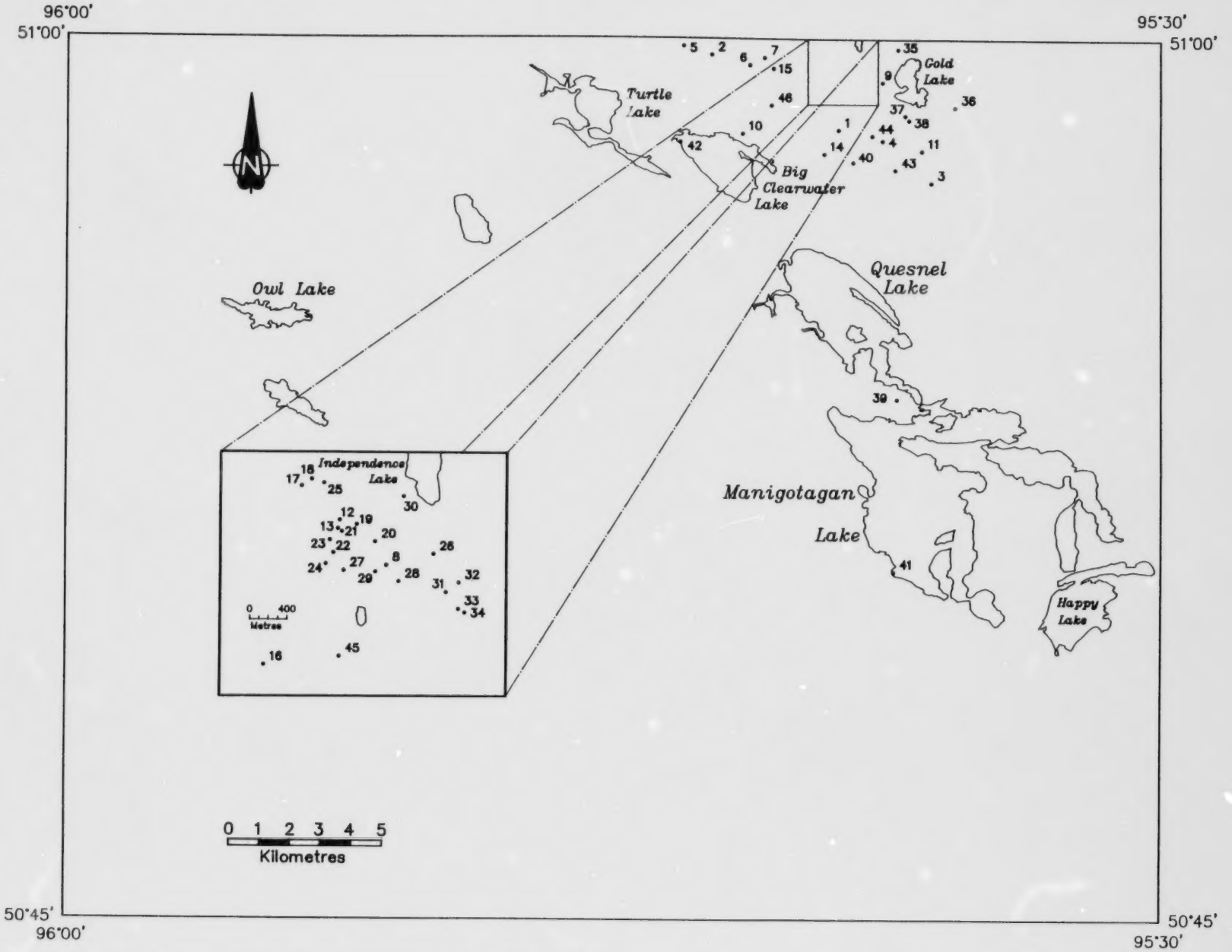



*Figure 1: Location of mineral deposits and occurrences (NTS 52L/13).*

# INTRODUCTION

This report and accompanying map are part of a Mineral Deposit Series presenting a uniformly organized and up-to-date collation and analysis of information on mineral occurrences in the Province of Manitoba. The series is intended: (1) to provide explorationists with a geoscientific data base that can be used in mineral exploration; and (2) to provide a technical data base for other government users in resource evaluations, formulation of mineral and land use policies and the initiation of regional development programs.

## METHODOLOGY

The documentation program was initiated in the main mining districts of the province under the 1984-1989 Canada-Manitoba Mineral Development Agreement. Under this project mineral deposit geologists of the Geological Services Branch have attempted to inspect and evaluate each known mineral occurrence. These site visits ranged from a preliminary half day or less search of an area for old workings, to extensive geological mapping of selected occurrences for a week or more. In addition, for each occurrence the geologists have attempted to synthesize available data from published and unpublished sources. The Manitoba Mineral Inventory Card Index and the Cancelled Assessment Files have been used extensively in the preparation of the report. Mineral occurrence documentations representing only cancelled assessment file compilations are identified as such under the heading 'Name'. Information for all other occurrences was acquired primarily by field examination and are commonly supplemented by cancelled assessment file compilations.

Information has been collated and maps prepared with the assistance of junior staff geologists and summer assistants. Senior mineral deposit geologists have provided the deposit classifications and text for the report.

### Deposit versus Occurrence

Throughout this report mineralization is referred to as a deposit if tonnage and grade figures are known; all other mineralization is referred to as an occurrence.

### Massive Sulphide versus Solid Sulphide

The use of 'massive sulphide' in the geological literature is confusing in that it is not always clear whether the authors are referring to a 'massive sulphide deposit' (cf. Sangster, 1972) or a section of sulphide-rich rock. In this publication 'massive sulphide' will be used in reference to a deposit type, i.e., a volcanogenic massive sulphide deposit type, rather than the nature of the mineralization. A volcanogenic or sedimentogenic massive sulphide deposit can contain a sulphide lens that locally contains as little as 10% sulphide minerals by volume. The alteration zones that are an integral part of many massive sulphide deposits rarely contain more than 50% sulphide minerals. Consequently, the use of 'solid sulphide' for 75%-100% and 'near solid sulphide' for 50%-75% sulphide minerals is adopted in place of the commonly used term 'massive' to describe the textural aspects of a sulphide mineralization.

## FORMAT OF MINERAL DEPOSIT MAPS

### Location:

One of the incentives spurring the mineral deposit documentation was the absence of accurate location maps for known mineral occurrences. Inaccurate land bases have previously resulted in failure to find old workings, surveys conducted in wrong areas, and even cancellation of intended surveys by explorationists. Consequently, considerable field time has been spent in establishing occurrence locations and attempts have been made to display exact locations both on the map and in the accompanying report.

The location number on the map is a unique reference number that will be used both in the report and the geologists' unpublished data base. These numbers are consecutive within each 1:50 000 NTS map sheet (but not within portions of a map sheet such as Map MDS87-1).

### Deposit Types:

In order to maintain a mineral deposit classification, which will be useful to both explorationists and metallogeneticists, a simplified descriptive classification was selected. This classification is based on the use of common deposit types for the classification of both deposits and occurrences. The classification of mineralization is based on the premise that the mineral explorationist requires information on metals and types of mineralization in an area as well as on the economic deposits (past, present and future producers).

All deposits and occurrences are classified according to the Deposit Type classification in Table 1.

The deposit type displayed on the map represents the mineralization with the greatest economic potential, for example a disseminated narrow chalcopyrite layer is emphasized rather than a much thicker solid pyrite-graphite layer.

### Mineralization:

A symbol is used to denote the percentage and/or type of mineralization present. At some localities more than one type of mineralization is present. The type of mineralization displayed in the symbol represents the mineralization with the greatest economic potential as indicated by the deposit type symbol. It should be noted that in the context of this report a "sulphide facies iron formation" is equivalent to a "sulphide stratum". For a discussion of sulphide stratum the reader is referred to Gale et al. (1980).

### Host Rocks:

In general, this description refers to the immediately underlying and overlying rock types. When a number of rock types are present in an extensive zone of

mineralization, the most common rock types are indicated.

---

**TABLE 1: MINERAL DEPOSIT TYPES**

**STRATABOUND MASSIVE SULPHIDE TYPE DEPOSITS**

a) Volcanic rock associated
b) Sedimentary rock associated
c) Alteration zone associated with a or b

CHEMICAL SEDIMENT TYPE DEPOSITS

a) Sulphide facies iron formation
b) Oxide facies iron formation
c) Carbonate facies iron formation
d) Silicate facies iron formation
e) Other chemical sediments

VEIN TYPE DEPOSITS

a) Single vein
b) Multiple veins or lenses
c) Stockwork

MAGMATOGENIC TYPE DEPOSITS ASSOCIATED WITH MAFIC/ULTRAMAFIC ROCKS

a) Disseminated
b) Layered
c) Net textured
d) Podiform

DEPOSITS WITH PORPHYRY AFFINITIES
PEGMATITE TYPE DEPOSITS
CLASTIC SEDIMENT TYPE DEPOSITS
REPLACEMENT TYPE DEPOSIT
NOT CLASSIFIED DEPOSITS

---

**Elements:**

This description allows for a maximum of three metals present in increasing order of abundance by volume. The precious and base metals are indicated in preference to elements such as iron and carbon.

In some instances it has been more efficient on the map and in the report to make reference to an area of mineralization rather than individual deposits or occurrences. All mineralization in the area delineated by a dotted line on the map is referenced in the report under the location number within that area.

**FORMAT OF MINERAL DEPOSIT REPORTS**

**Location:**

Each deposit or occurrence description will contain the unique deposit reference number, deposit or claim name where applicable, UTM coordinates, general area description, the reference number of the airphoto on which the deposit can be located and a brief description of method(s) of access.

**Exploration Summary:**

This section provides a summary of the extent of exploration. Information for this section was compiled from Mineral Inventory Cards, cancelled Assessment Files, and maps and files from the Mining Recording Office.

**Geological Setting:**

In this section the general geology of a deposit or occurrence is described. The information levels of the descriptions vary considerably and depend largely upon the extent of geological mapping during the documentation project. For further details the reader should consult the references cited.

**Mineralization:**

A detailed description of the mineralization provides the reader with the opportunity to make their own evaluation of the significance of a mineral occurrence or deposit.

**Geochemical Data:**

In addition to detailed geological mapping around individual mineral occurrences rock samples were routinely collected from trenches and outcrop in the vicinity of the occurrences. Multi-element analyses are presented for 162 rock samples collected from mineral occurrences 1-57. Details of the sampling and analytical procedures are presented in Appendix I along with multi-element geochemical data.

**Classification:**

In this section the geologist may indicate the reasons for the classification appearing on the Mineral Deposit Map. For those localities containing more than one deposit type, the deposit types not shown on the map are documented here.

**References:**

These include both published and unpublished sources. For published and assessment report information the reader should obtain desired material directly from the source. The mineral deposit geologists will endeavour to supply copies of unpublished material on a deposit by deposit basis. References listed at the end of each occurrence description may also include sources of additional information not directly cited in the text.

**Abbreviations:**

The following abbreviations are used throughout the occurrence descriptions:

| | |
|---|---|
| A.A. | Atomic absorption |
| A.F. | Assessment file |
| g/t | Grams per tonne |
| oz/ton | Ounces per ton |
| HBED | Hudson Bay Exploration and Development Company Limited |
| HBM&S | Hudson Bay Mining and Smelting Company Limited |
| DDH | Diamond drill hole(s) |
| EM | Electromagnetic |
| CNR | Canadian National Railway |
| Hwy. | Highway |
| Fe | Iron |
| Mg | Magnesium |

| | |
|---|---|
| Cu | Copper |
| Zn | Zinc |
| Pb | Lead |
| Au | Gold |
| Ag | Silver |
| py | Pyrite |
| po | Pyrrhotite |
| cp | Chalcopyrite |
| v.f.g. | Very fine grained |
| f.g. | Fine grained |
| m.g. | Medium grained |
| c.g. | Coarse grained |

This mineral deposit report and the accompanying map are intended to be active documents that can be updated as new information becomes available. Although revisions of the publication are anticipated, any additional unpublished information may be obtained by contacting the authors or the Director, Geological Services Branch.

## ACKNOWLEDGMENTS

During the course of mineral occurrence documentation in the Rice Lake greenstone belt seasonal students provided assistance with sampling, grid construction, outcrop preparation, outcrop map production and portions of the geological mapping. We would like to acknowledge the following for their contributions in the field and the office:

1984: Senior Geological Assistants - R. Gaba, R. Schmidtke
Junior Geological Assistants - D. Hayden-Luck, G. Leathers, B. Mattison, D. Onagi, S. Pelechaty

1985: Senior Geological Assistant - R. Gaba, P. Stewart
Junior Geological Assistants - J. Lutz, P. Southam, B. Wischnewski

1986: Senior Geological Assistant - R. Gaba
Junior Geological Assistants - A. G. Johnston, P. Southam

1987: Junior Geological Assistant - D. Atkinson

1988: Junior Geological Assistant - T. Le Lam

The following individuals are acknowledged for assistance during the field portion of this program: B. Conley, D. Gianotti, S. LeSavage, and S. Symesko.

We would also like to acknowledge the following individuals for their assistance in the preparation of this report:

Drafting - M. Carvalho, E. Graveley, E. Truman
Autocad - R. Eccles, D. McShane, E. Su, M. Timcoe
Typing - L. Bobier, L. Chudy, D. Kircz, S. Weselak
Review - G. Gale

## GENERAL GEOLOGY OF AREA 52L/13

Geological information for NTS area 52L/13 is based mainly on map 71-1/4 "Geology of the Wanipigow River-Manigotagan River Region" at a scale of 1:63 360 (Weber, 1971). Supplementary data were gleaned from Manitoba Energy and Mines Assessment Files and from the 1:250 000 scale map sheet NTS 52L (Preliminary Edition) of the Bedrock Geology Compilation Map series.

The map area is underlain by rocks of the east-west trending Archean Rice Lake greenstone belt (2731 +/- 1.5 Ma, Turek, in press) in the north, bounded to the south by rocks of the Manigotagan gneiss belt. Supracrustal rocks within the greenstone belt have been subdivided into the volcano - sedimentary rocks of the Rice Lake Group and the sedimentary rocks of the San Antonio Formation.

Stratigraphy within the Rice Lake Group comprises basal mafic volcanic rocks interdigitated with detrital sedimentary rocks overlain by intermediate to felsic pyroclastic rocks and their sedimentary derivatives. The San Antonio Formation is considered to unconformably overly the Rice Lake Group rocks and comprises quartzite, slate, greywacke and conglomerate. The Manigotagan gneiss belt is comprised predominantly of sedimentary rocks that exhibit chlorite-stable mineral assemblages at its northern boundary with the greenstone belt and grade south through gneisses and migmatitic gneiss into quartz diorite and granodioritic gneiss (McRitchie and Weber, 1971).

The Rice Lake Group has been intruded by the granodioritic Ross River Pluton and the related intrusive rocks south of Wanipigow Lake.

Most mineral occurrences in map sheet MDS 4 are auriferous quartz veins hosted by rocks of the Rice Lake Group. A small number of auriferous quartz veins occur at the margins of the Ross River Pluton.

Radioactive minerals have been found in the San Antonio Formation and in some pegmatites of the Manigotagan gneiss belt.

Most auriferous quartz veins in the map area occur east and west of the Ross River Pluton. According to Stephenson (1972) this may be due to structural interference caused by the buttressing effect of the Ross River Pluton that created symmetrically disposed shears and fractures in the adjacent supracrustal rocks of the greenstone belt.

Auriferous quartz veins occur in shear and fracture zones that commonly trend in a northwesterly direction. Distribution patterns of quartz-filled shears and fractures may be dependent upon the relative competency of the rocks, since the more competent rocks tend to react to tectonic stress by brittle failure that provided depositional sites for mineralizing fluids. In general, auriferous quartz veins in the map area rarely exceed 1 m in thickness, are lenticular and tend to pinch and swell along strike. However, quartz veins of the Packsack Mine (2) are 5 to 15 m thick and up to 130 m long.

The Gold Pan deposit (4) with reported production of 7.4 kg gold, is the most economically important deposit in this map area. Gold occurs within lenticular quartz veins in a 2-3 m thick vertically dipping shear zone traced for approximately 500 m in a northwesterly direction. The shear zone cuts quartz porphyry and a fine grained mafic dyke. Gold is especially concentrated in the quartz vein within the mafic (diabase) dyke. This distribution pattern led to the speculation that diabase may be an especially favourable hostrock for auriferous quartz veins due to its competent nature; a theory that has dominated the philosophy of gold exploration in this area.

The Gold Lake deposit (1), (Bailes, 1971) consists of discontinuous irregularly shaped quartz veins and pods hosted by a major 10 to 30 m thick steeply dipping shear zone. The shearzone transects felsic and intermediate volcanic rocks. Bailes (1971) concluded that the location of this shear zone is controlled by the presence of the Ross River Pluton and that shearing provided a permeable access zone to the mineralizing fluids and created depositional sites for the formation of the quartz veins.

## SELECTED REFERENCES


Bailes, A.H.

1969: The geology and geochemistry of the Pilot-Smuggler shear zone, Rice Lake area, Manitoba; University of Manitoba, M.Sc. Thesis (unpublished), 117 p.

1971: Geology and Geochemistry of the Pilot-Smuggler shear zone, Rice Lake region, southeastern Manitoba; In Geology and Geophysics of the Rice Lake region, southeastern Manitoba (Project Pioneer), (W.D. McRitchie and W. Weber, eds); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 299-312.

Cooke, H.C.

1922: Geology and mineral resources of Rice Lake and Oiseau River areas, Manitoba; In Geological Survey of Canada, Summary Report, Part C, 1921, p. 1-35.

Davies, J.F.

1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

DeLury, J.S.

1921: Mineral prospects in southeastern Manitoba (Rice Lake, Maskwa River and Boundary districts); Manitoba Government Bulletin, Commissioner of Northern Manitoba, 55 p.

Gale, G.H., Baldwin, D.A. and Koo, J.

1980: A geological evaluation of Precambrian massive sulphide deposit potential in Manitoba; Manitoba Energy and Mines, Economic Geology Report ER79-1, 137p.

McRitchie, W.D. and Weber, W. (eds.)

1971: Geology and geophysics of the Rice Lake region, southeastern Manitoba (Project Pioneer); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, 430 p.

Sangster , D.F.

1972: Precambrian volcanogenic massive sulphide deposits in Canada: A review; Geological Survey of Canada, Paper 72-22, 44 p.

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stephenson, J.F.

1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. thesis (unpublished), 294 p.

Stewart, P.W.

1985: Mineral occurrence documentation in the Rice Lake greenstone belt; In Manitoba Energy and Mines, Geological Services, Mines Branch, Report of Field Activities 1985, p. 133-147.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

1945: Rice Lake, Manitoba; Geological Survey of Canada, Map 810A, one inch to one mile.

Theyer, P.

1983: Geology of gold environments in the Bissett/Wallace Lake portion of the Rice Lake greenstone belt; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1983, p. 101-106.

1984: Mineral deposit investigations in the Rice Lake greenstone belt; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1984, p. 87-91.

Turek, A., Keller, R., Van Schmus, W.R.., and Weber, W.

in press: U-Pb zircon ages for the Rice Lake area, southeastern Manitoba; Canadian Journal of Earth Sciences.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

Wright, J.F.

1923: Rice Lake map area, southeastern Manitoba; In Geological Survey of Canada, Summary Report, Part C, p. 45-88.

1932: Geology and mineral deposits of a part of southeastern Manitoba; Geological Survey of Canada, Memoir 169, 150 p.

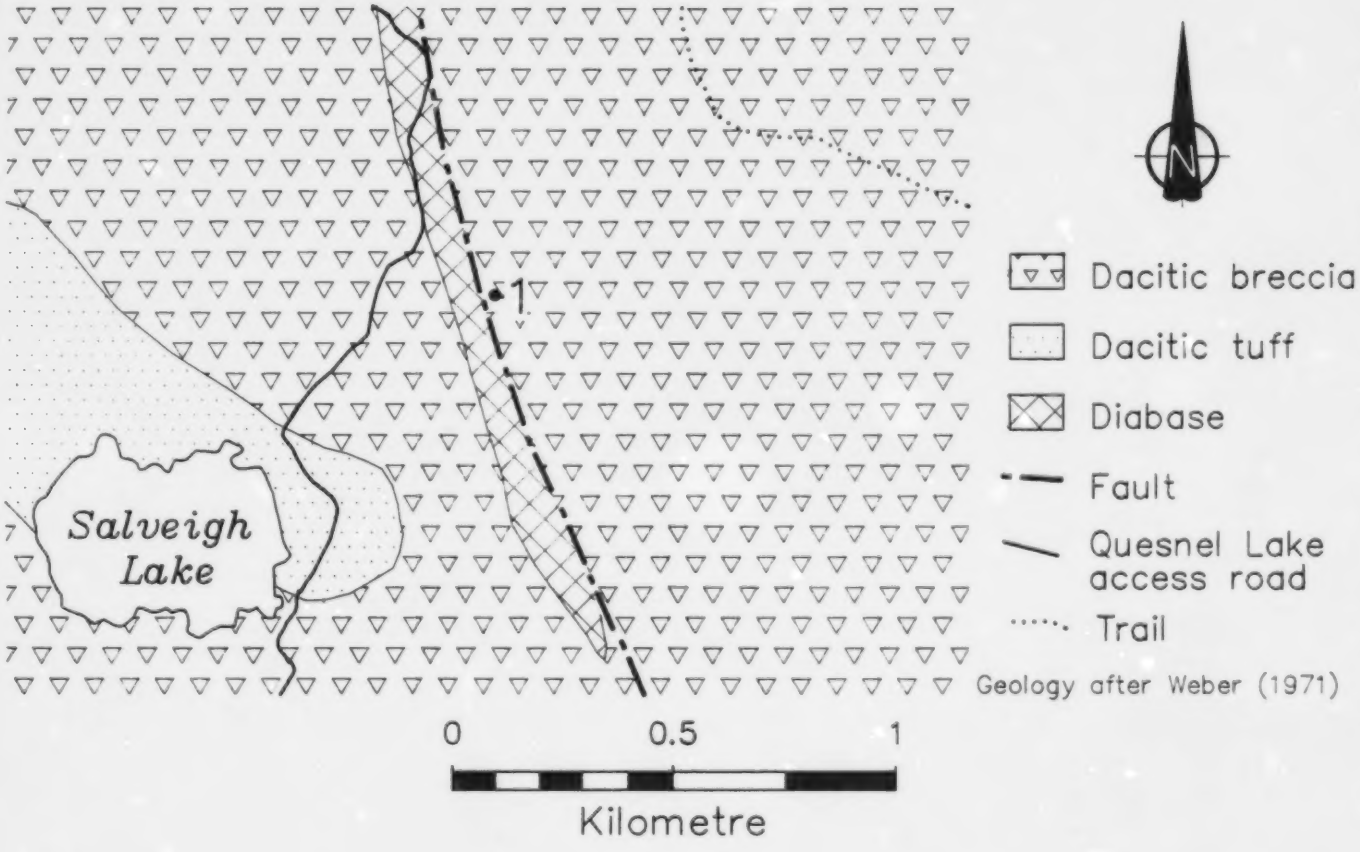



*Figure 1-1: Geological setting of the Gold Lake occurrence (location 1).*

## MINERAL DEPOSITS AND OCCURRENCES: MANIGOTAGAN LAKE AREA (52L/13)

**LOCATION:** 1

NAME: GOLD LAKE

UTM: 5650120N 314180E
ACCESS: Via the Quesnel Lake access road.

AREA: Approximately 0.6 km northeast of Salveigh Lake Fig. 1-1)
AIRPHOTO: A24711-99

EXPLORATION SUMMARY:

The Pilot and the Smuggler claims were staked over the Gold Lake deposit in 1914. DeLury (1929) reported the presence of two shafts and numerous pits and trenches on the Pilot claim. Twenty-two holes were drilled during 1935 and 1936. A shaft was sunk in 1936, but operations were suspended, re-opened and suspended again in that year. Underground exploration indicated that the mineralization at surface did not persist in depth and was not continuous along strike (Davies, 1953).

GEOLOGICAL SETTING:

This area is underlain by fragmental dacitic to rhyolitic rocks. The Ross River Pluton, a large quartz-dioritic intrusion is exposed approximately 2.9 km east of the occurrence. In the area of the Gold Lake occurrence an approximately 4.5 km long, 15 to 30 m thick steeply dipping shear zone veers from a 335° strike into a more northerly direction. According to Bailes (1971) the change of strike may have created zones of dilation where quartz veins became concentrated. Bailes (1969, 1971) concluded that:

(a)the highly permeable sheared rocks provided migration paths and emplacement sites for mineral bearing fluids and

(b)the constituents of the mineralized quartz veins could have been derived locally from the altered host rocks, and

(c)depositional sites for the gold-bearing quartz veins were localized by structure.

MINERALIZATION:

Bailes (1969) documented the geological setting and Stephenson (1972) described a polished ore sample from this occurrence. Quartz veins and lenses are milky white to translucent and contain ferruginous carbonate and minor sulphides. Pyrite, the predominant sulphide, is located in fractures and pods. Sphalerite and chalcopyrite occur in very minor concentrations.

GEOCHEMICAL DATA:

Assay results reported range from 6.17 g/tonne to 14.4 g/tonne Au. (Mineral Inventory Card 52L/13NE Au2).

Eighteen grab samples were taken from rubble adjacent to and in the trenches and pits. The sample locations are shown on Figure 1-2 and the assay data are presented in Table 1-1.

**Table 1-1: Gold analyses; mineral occurrence at location 1**

| Sample No. | Description | Au |
|---|---|---|
| 77-4-48 | quartz, minor pyrite, malachite, chlorite | 2.5 (g/tonne) |
| 77-4-49 | sheared and laminated felsic rock with chloritic inclusions | Trace |
| 77-4-50 | quartz vein, minor pyrite | Nil |
| 77-4-51 | quartz, minor pyrite | Nil |
| 77-4-52 | rose quartz with minor sulphides | Trace |
| 77-4-53 | felsic rock, chlorite and carbonate | Nil |
| 77-4-54 | quartz with minor pyrite, malachite staining, chlorite | Nil |
| 77-4-55 | felsic rock with chloritic and carbonatized laminae | Trace |
| 77-4-56 | rusty quartz with sulphides | Trace |
| 77-4-57 | sheared porphyry? rusty spots | Trace |
| 77-4-58 | feldspar-phyric rust stained breccia | Nil |
| 77-4-59 | quartz with pyrite, malachite stains, minor chlorite | Trace |
| 77-4-60 | silicified mafic rock | Nil |
| 77-4-61 | quartz with chlorite | 850 ppb |
| 77-4-62 | foliated felsic rock | 200 ppb |
| 77-4-63 | quartz rubble with chalcopyrite | 32.8 g/tonne |
| 77-4-64 | rust-stained fragmental rock | Trace |
| 77-4-65 | quartz with pyrite | 7 g/tonne |

CLASSIFICATION:

Vein type deposit with multiple quartz lenses. This mineralization was probably formed by quartz, carbonate and sulphide bearing fluids focussed along a permeable shear zone.

REFERENCES:

Bailes, A.H.
1969: The geology and geochemistry of the Pilot-Smuggler shear zone, Rice Lake area, Manitoba; University of Manitoba, M.Sc. Thesis (unpublished), 117 p.

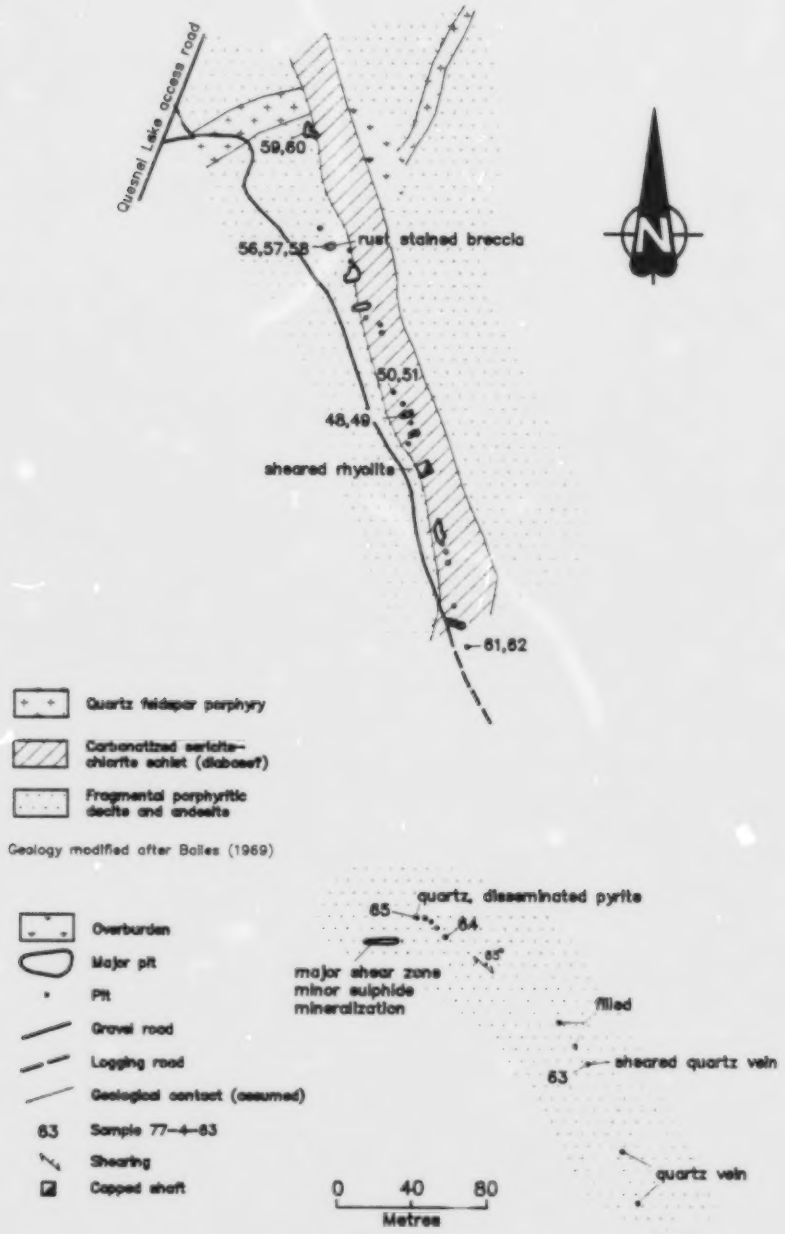



*Figure 1-2: Detailed geology, trench and sample locations at the Gold Lake occurrence (location 1).*

1971: Geology and Geochemistry of the Pilot-Smuggler shear zone, Rice Lake region, southeastern Manitoba; In Geology and Geophysics of the Rice Lake region, southeastern Manitoba (Project Pioneer), (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 299-312.

Davies, J.F.
1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

DeLury, J.S.
1921: Mineral prospects in southeastern Manitoba (Rice Lake, Maskwa River and Boundary districts); Manitoba Government Bulletin, Commissioner of Northern Manitoba, 55 p.

Mineral Inventory Card 52L/13NE Au2
Manitoba Energy and Mines, Minerals Division.

Stephenson, J.F.
1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. thesis (unpublished), 294 p.

Theyer, P.
1984: Mineral deposit investigations in the Rice Lake greenstone belt; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1984, p. 87-91.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

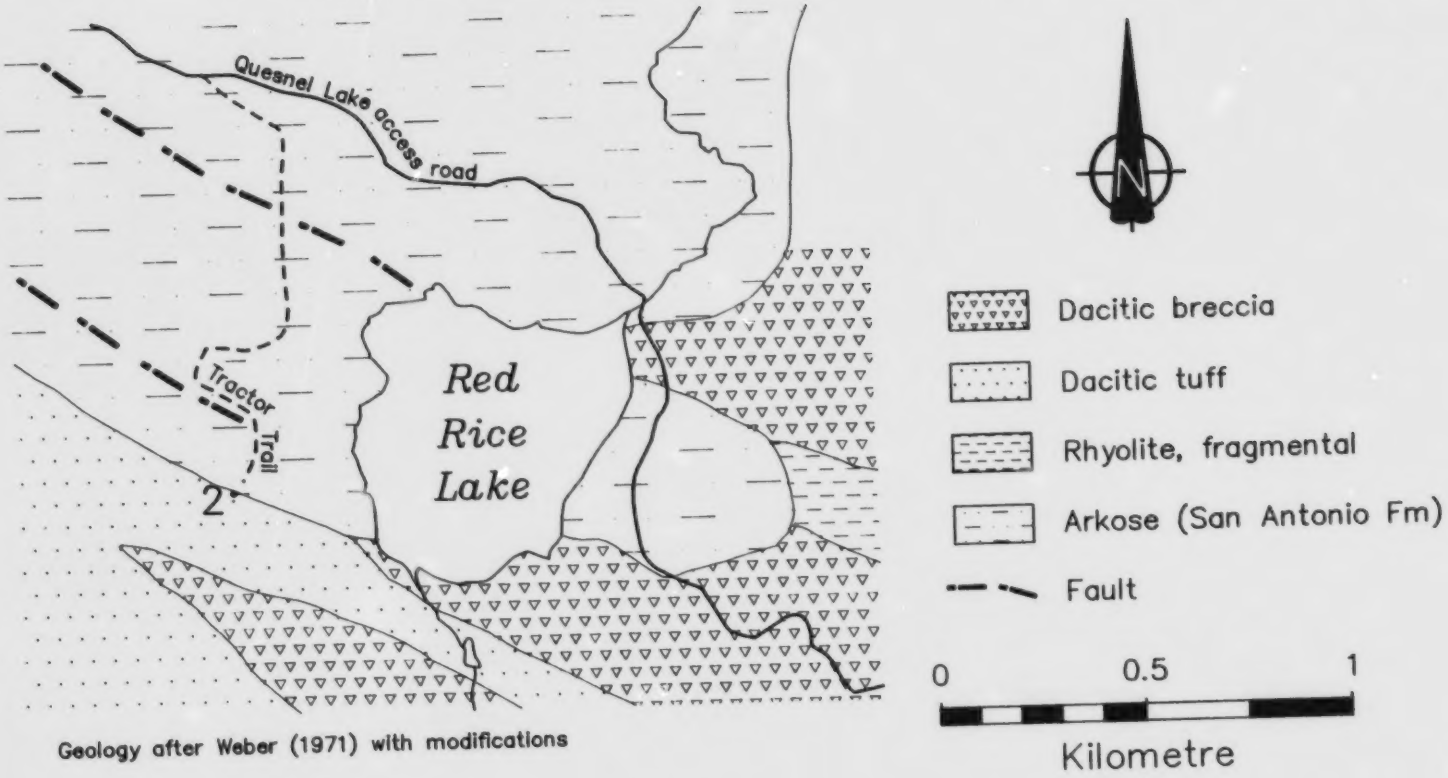



*Figure 2-1: Geological setting of the Packsack Mine (location 2).*

**LOCATION: 2**

NAME: PACKSACK MINE
UTM: 5652630N 310102E
ACCESS: Via a tractor trail off the Quesnel Lake access road.(Fig. 2-1)

AREA: Approximately 350 m west of Red Rice Lake
AIRPHOTO: A24713-91

EXPLORATION SUMMARY:

The area was staked in 1917. A two compartment shaft was sunk during 1936 and 1937 to a depth of 160 m. In 1940 a diamond drilling and underground development program failed to extend ore reserves and the mine was closed. An impact mill and shaker table were installed to selectively beneficiate high grade ore in 1985; the operation was closed at the end of that year.

GEOLOGICAL SETTING:

This deposit occurs in a northwest trending shear zone that transects porphyritic dacite of the Rice Lake Group. The host rock has been altered to a chlorite sericite-carbonate schist and has been intruded by narrow northwest trending diabase dykes.

MINERALIZATION:

The deposit consists of two major quartz vein complexes. The 98 m long "Big Dome" vein strikes 285° and dips steeply northeast. It is 4.6 m thick at its northern end and thins to the southeast. The 61 m long "Golden Stairway" vein strikes 350°. Sulphide mineralization consists of pyrite and chalcopyrite blebs and veinlets in quartz. The sulphides tend to be most abundant at the quartz vein margins and in chloritized wall rock inclusions. Quartz specimens with visible gold were found on the dumps (Stephenson, 1972) but none were observed during an extensive sampling program undertaken in 1986.

GEOCHEMICAL DATA:

In 1937 probable ore reserves from the surface to 18 m depth were estimated as 21 800 tonnes with a grade of 12.36 g/tonne/Au and 4500 tonnes of 5.88 g/tonne Au (L. Chamberlin, unpublished documents; Manitoba Energy and Mines).

A rock sampling program was undertaken on the quartz veins and country rock of the Packsack Mine in 1986. All samples were analyzed by ACME Chemical Laboratories by dissolving a 10 g sample in aqua regia, followed by analysis via Atomic Absorption. Sample locations are recorded on Fig. 2-2.

Samples:

51-6-B50: 50 cm chip sample; includes 30 cm white quartz containing approximately 1-2% pyrite and minor chalcopyrite. 480 ppb Au.

B51: vein; predominantly white quartz and minor grey quartz. 3 ppb Au.

B52: 1 m chip sample across 1.5 m thick white quartz vein with minor chlorite and sericite. Less than 1% pyrite associated with chlorite-bearing veinlets. 19 ppb Au.

B53: 1.5 m chip sample across a 1.5 x 2 x 1 m deep trench exposing white quartz containing veinlets of chlorite; mineralization consists of 1% arsenopyrite and pyrite; malachite staining was also observed. 1 ppb Au.

B54: 1 m chip sample across a quartz vein at the southeast end of a 3 x 11 x 1 m deep trench; quartz is stained with Fe-oxide and contains approximately 1% pyrite, 1-2% chalcopyrite and malachite. 7.3 g/tonne Au.

B55: 10 m chip sample across white vein quartz with minor chlorite inclusions. Mineralization consists of approximately 1% pyrite. 4 ppb Au.

B56: Chip sample from an array of 5 to 10 cm thick quartz veins that are concordant with the foliation; foliated country rock is altered and chloritized; quartz includes approximately 1% pyrite and chalcopyrite. 8 ppb Au.

B57: Chip sample, 1 m long, taken from a trench approximately 2 x 4 x 2.5 m deep, containing a 1 m thick chlorite bearing white quartz vein; sulphide mineralization restricted to the chloritized country rock immediately adjacent to quartz vein. 2-3% pyrite and minor carbonate are present. 6 ppb Au.

B58: Sample from a 1 x 2 x 1 m deep trench that exposes two quartz veins of 25 cm and 8 cm width; quartz is milky white with chlorite veinlets and vuggy; some vugs are infilled with pyrite and Fe-oxides; approximately 20% sulphides. 600 ppb Au.

B59: Chip sample across quartz vein exposed in a 1 x 10 x 1 m deep trench; quartz is milky white with chloritic inclusions. 2% pyrite in host rock adjacent to the quartz vein. 17 ppb Au.

B60: Chip sample 1.5 m across a white to grey quartz vein with chloritic veinlets in a fractured zone; quartz is locally vuggy, rust stained and contains 1% pyrite. 6 ppb Au.

B61: Chip sample, 3 m long, taken across a mainly white quartz vein with minor grey and black coloured zones and minor chloritic inclusions; approximately 1% pyrite; this sample taken from same vein as sample B60. 1 ppb Au.

B62: Chip sample across 70 cm thick quartz vein at north end of 1.5 x 13 x 1.5 m trench; quartz is milky white with chloritic patches and veinlets, minor iron oxide staining; approximately 1% pyrite in fractures; minor carbonate is distributed

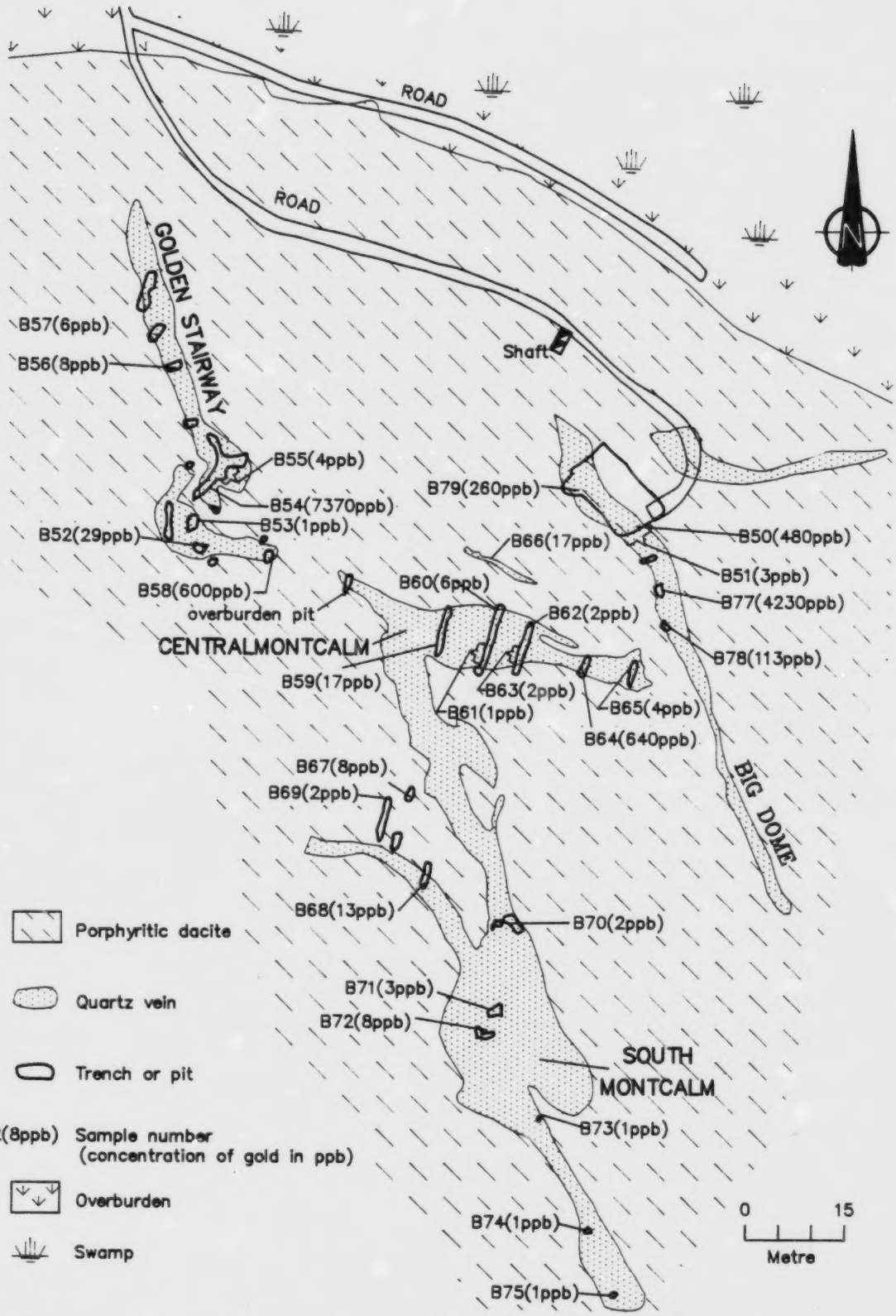



*Figure 2-2: Detailed geology, trench and sample locations at the Packsack Mine (location 2).*

throughout the vein but up to 5% ankerite is present adjacent to wall rock. 2 ppb Au.

B63: Chip sample 1.5 m long across quartz vein exposed at south end of same trench as sample B 62. 2 ppb Au.

B64: Chip sample 1.2 m long, across a quartz vein exposed in a trench 1.5 x 7 x 1 m; quartz is white to grey with large chlorite patches and stringers; up to 4% pyrite occurs in fractures and in association with chlorite; ankerite is present throughout the quartz. 640 ppb Au.

B-65: Chip sample across a 2 m thick quartz vein exposed at the north end of a large rubble-filled trench 1 x 8 x 0.5 m; quartz is white and barren of sulphide, but contains numerous chlorite veinlets. 4 ppb Au.

B-66: Chip sample across a 85 cm thick milky white quartz vein that contains numerous chloritic veinlets and some chlorite patches; contains less than 1% pyrite. 17 ppb Au.

B-67: Chip sample 1.6 m long, from two quartz veins (30 cm and 50 cm thick); quartz is milky white to white with a glossy texture; vugs in quartz are infilled with iron oxides and carbonate; chlorite veinlets and patches occur in fractures; less than 1% pyrite. 8 ppb Au.

B68: Chip sample 140 cm long across a quartz vein exposed in a 2 x 7 x 2 m deep trench; sample collected at the northwest end of the trench; milky white and glassy quartz contains 10% chlorite and 3-4% Fe-oxide; 1-2% pyrite is associated with chloritized fractures. 13 ppb Au.

B69: Chip sample 50 cm long from milky white to glassy quartz; contains up to 2% pyrite concentrated in and adjacent to chloritic veins. 2 ppb Au.

B70: Chip sample 2.8 m long from a 4.5 m thick quartz vein exposed in 2 x 7.5 x 1 m deep trench; quartz is milky white to rose coloured and contains 5% to 10% chlorite in veinlets; no visible sulphide. 2 ppb Au.

B71: Chip sample 1 m long, from a 1.5 m thick quartz vein exposed on surface adjacent to a water-filled 2 x 3 x 1.5 m trench; milky white glassy quartz contains sets of chlorite-rich veinlets along fractures; 1% pyrite and minor ankerite occur adjacent to chlorite; malachite staining common in rubble; abundant Fe-oxide staining occurs in fractures near wall rock inclusions. 3 ppb Au.

B72: Chip sample 2.4 m long, from a quartz vein at the north end of a 1.5 x 3.5 x 1 m trench; quartz is mostly milky white and has patches of grey-black and rose coloured varieties; 1-2% pyrite; malachite and iron oxide stains in rubble. 8 ppb Au.

B73: Grab sample from surface exposure of a quartz vein; milky white quartz with malachite stains, chlorite veinlets and minor Fe-oxide; no visible sulphides. 1 ppb Au.

B-74: Grab sample from surface exposure of a 8.5 m thick quartz vein; quartz is white with minor chlorite but no visible sulphides. 1 ppb Au.

B-75: Grab sample of a quartz vein exposed by stripping overburden; vein ranges from 0.5 m to I m in thickness; contains chlorite veinlets in fractures and minor ankerite; no visible sulphides. 1 ppb Au.

B-76: Grab sample from a 3 m thick quartz vein exposed by stripping overburden. Quartz is white to rose coloured and contains veinlets and patches of chlorite; no visible sulphides. 2 ppb Au.

B-77: Chip sample, 2 m long, of a quartz vein in a 2 x 2 x 1 m deep trench; quartz ranges from milky white to rose and grey colours; contains 2-3% pyrite and minor chalcopyrite; minor malachite staining in wallrocks. 4.2 g/tonne Au.

B78: Chip sample, 2 m long, from a quartz vein exposed in a 3 x 3 x 2 m deep trench; quartz is white and contains abundant chlorite and ankerite as well as 1-2% pyrite. 113 ppb Au.

B79: Chip sample, 50 cm long, from mineralized zone exposed in eastern side of the main pit; quartz is white to grey and contains pink areas; sulphides (3-4%) include pyrite and chalcopyrite; minor malachite stains. 260 ppb Au.

Two grab samples from the "ore pile" (Fedikow, pers. comm.) were assigned.

**Table 2-1: Grab samples; mineral occurrence at location 2**

| | Au g/tonne | Ag g/tonne | Cu | Zn | Pb (%) |
|---|---|---|---|---|---|
| 81/1/1 | 2.7 | 0.17 | nil | tr | tr |
| 81/1/2 | 3.8 | 0.17 | nil | nil | tr |

A chip sample (1 m long) with up to 5% pyrite and chalcopyrite from a zone of "maximum mineralization in the open pit" contained 436 ppb Au.

These samples demonstrate that gold occurs in relatively low concentrations in the Central Montcalm, South Montcalm and the Golden Stairway quartz stock works. However, samples of the Big Dome vein contain relatively high gold concentrations.

CLASSIFICATION:

Vein type deposit with multiple lenses. Probably formed by mineralizing fluids focussed into a northwest trending shear zone.

REFERENCES:

Davies, J.F.

1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines Branch, Publication 52-1, 41 p.

McRitchie, W.D. and Weber, W. (eds.)

1971: Geology and geophysics of the Rice Lake region, southeastern Manitoba (Project Pioneer); Manitoba Mines and Natural Re-

McRitchie, W.D. and Weber, W. (eds.)

1971: Geology and geophysics of the Rice Lake region, southeastern Manitoba (Project Pioneer); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, 430 p.

Stephenson, J.F.

1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; unpublished Ph.D. thesis, University of Manitoba, 294 p.

Stockwell, C.H.

1945: Rice Lake, Manitoba; Map 810A, one inch to one mile, Geological Survey of Canada.

Theyer, P.

1983: Geology of gold environments in the Bissett/Wallace Lake portion of the Rice Lake greenstone belt; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 101-106.

1984: Mineral deposit investigations in the Rice Lake greenstone belt; In Manitoba Mineral Resources Division, Report of Field Activities 1984, p. 87-91,

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, ed. W.D. McRitchie and W. Weber; Manitoba Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

Wright, J.F.

1923: Rice Lake map area, southeastern Manitoba; In Geological Survey of Canada, Summary Report, Part C, p. 45-88.

**LOCATION:** 3

NAME: MOOSE

UTM: 5648643N 317064E

ACCESS: Via Quesnel Lake access road, Gold Pan tractor trail, winter road.

AREA: Approximately 2.2 km south of Gold Lake (Fig. 3-1)

AIRPHOTO: A24711-100

EXPLORATION SUMMARY:

The property was staked in 1914 and an 8 m deep shaft (north shaft) was sunk in 1916 after a trenching and sampling program. An additional shaft (south shaft) was sunk to a depth of 31 m and drifting proceeded for 22 m east and 33 m northeast along a southwest dipping quartz vein. Exploratory drilling was conducted in 1936 and a trench sampling program was carried out in 1939. The 736 m of diamond drilling conducted in 1936 intersected only a few significant intersections of gold-bearing mineralization. Drilling in 1961-62 also indicated only minor, sporadic gold mineralization (A.F. 91104). A 90 m drilling program was conducted in 1980.

GEOLOGICAL SETTING:

The area of the Moose deposit is underlain by foliated porphyritic dacite of the Rice Lake Group that is intruded by granodiorite of the Ross River Pluton to the east and south. The porphyritic dacite is transected by a 3-11 m thick north striking ($340^{o}$-$005^{o}$) shear zone that has been traced for more than 1 km north of the North shaft. The shear zone terminates in granodiorite to the south, but appears to be open in a northerly direction. According to Davies (1953) it probably extends more than 5 km northwest of this deposit. Discontinuous quartz veins and lenses that range from 0.3-6 m in thickness are hosted by fractured rocks that have been altered to a gritty siliceous carbonatized chlorite-sericite schist in the vicinity of the veins. Drag folding, slickensides and deformed chlorite and sericite indicate a near-horizontal right lateral displacement along the shear (Stephenson, 1972).

MINERALIZATION:

Milky white, sugary to cherty quartz contains erratically distributed, disseminated pyrite and chalcopyrite. Ankerite occurs sporadically in isolated patches. Stephenson (1972) noted that gold occurs in pyrite, hosted by vein quartz but not in pyrite of the wall rocks and concluded that the gold mineralization event occurred simultaneously with the pyritization of the vein quartz and after mineralization of the wall rocks.

GEOCHEMICAL DATA:

Approximately 16800 tonnes of ore containing 34.3 g/tonne gold were reported from this deposit (Manitoba Mines Branch, Corporation Files Black River Gold Mines Ltd.). Most of the assays from the drilling program carried out between 1961 and 1962 returned gold concentrations that range from trace to 1 g/tonne. Higher concentrations were intersected in the following holes:

**Table 3-1: Gold analyses; mineral occurrence at location 3**

| No. | Interval (metres) | g/tonne Au |
|---|---|---|
| 2 | 8.0 - 8.3 | 64.5 |
| 3 | 6.2 - 6.6 | 34.3 |
| 7 | 10.0 - 10.5 | 38.4 |
| 8 | 12.8 - 13.9 | 34.3 |
| 14 | 17.9 - 18.4 | 92.7 |
| 19 | 38.2 - 38.7 | 50.7 |

Two grab samples were collected in 1986. Sample B16 from the mine muck adjacent to the southern shaft contained 4.9 g/tonne Au and sample B17 from a quartz vein with 1% pyrite that is exposed in a prospecting pit approximately 15 m southwest of the northern shaft contained 21.6 g/tonne Au (Fig. 3-2).

CLASSIFICATION:

Vein type deposit with multiple quartz lenses.

REFERENCES:


Assessment File 91104; Manitoba Energy and Mines, Minerals Division.

Cooke, H.C.
1922: Geology and mineral resources of Rice Lake and Oiseau River areas, Manitoba; in Geological Survey of Canada, Summary Report, Part C, 1921, p. 1-35.

Davies, J.F.
1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

DeLury, J.S.
1921: Mineral prospects in southeastern Manitoba (Rice Lake, Maskwa River and Boundary districts); Manitoba Government Bulletin, Commissioner of Northern Manitoba, 55 p.

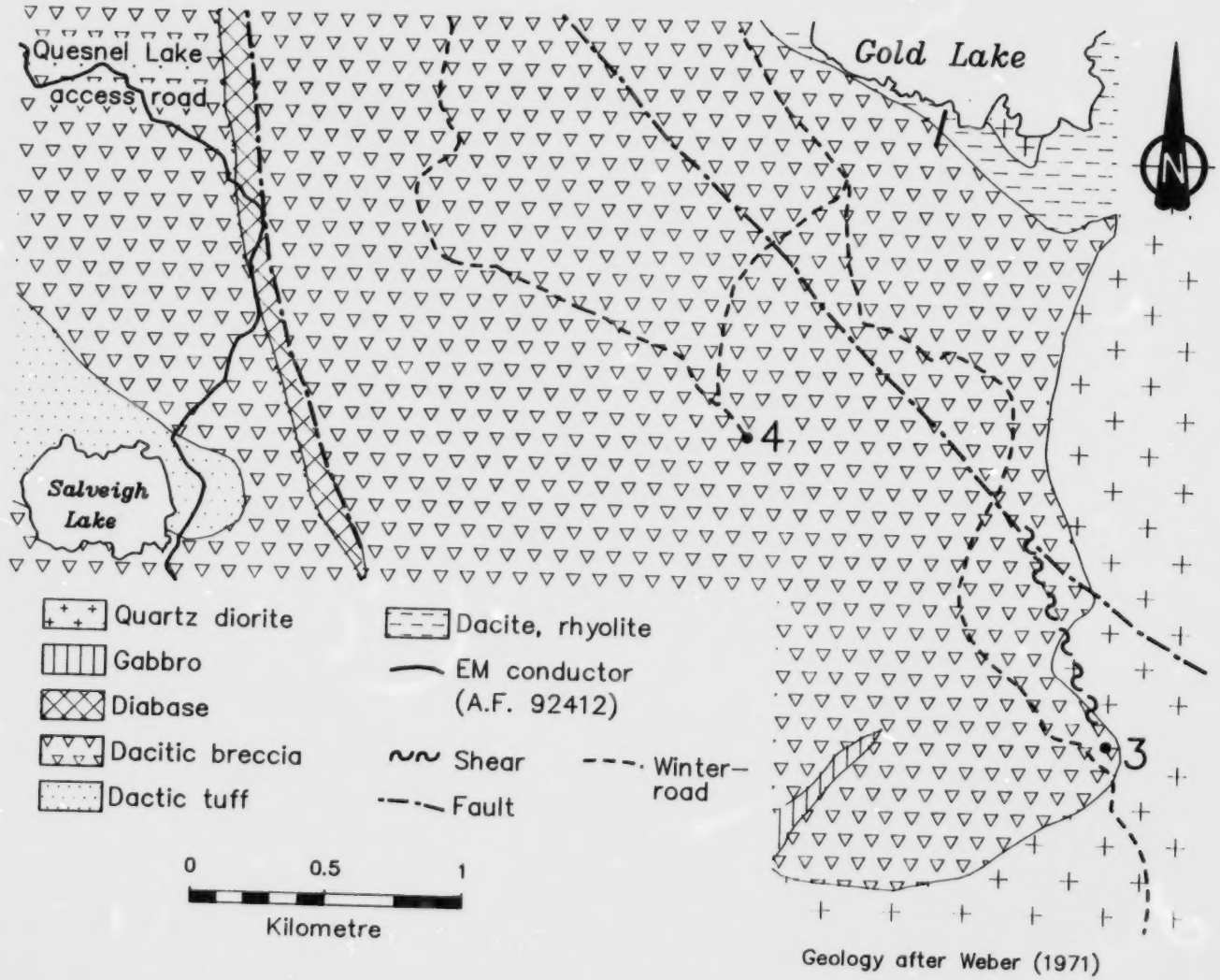



*Figure 3-1: Geological setting of occurrence 3 (Moose) and the Gold Pan Mine (location 4).*

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

Wright, J.F.

1923: Rice Lake map area, southeastern Manitoba; In Geological Survey of Canada, Summary Report, Part C, p. 45-88.

1932: Geology and mineral deposits of a part of southeastern Manitoba; Geological Survey of Canada, Memoir 169, 150 p.

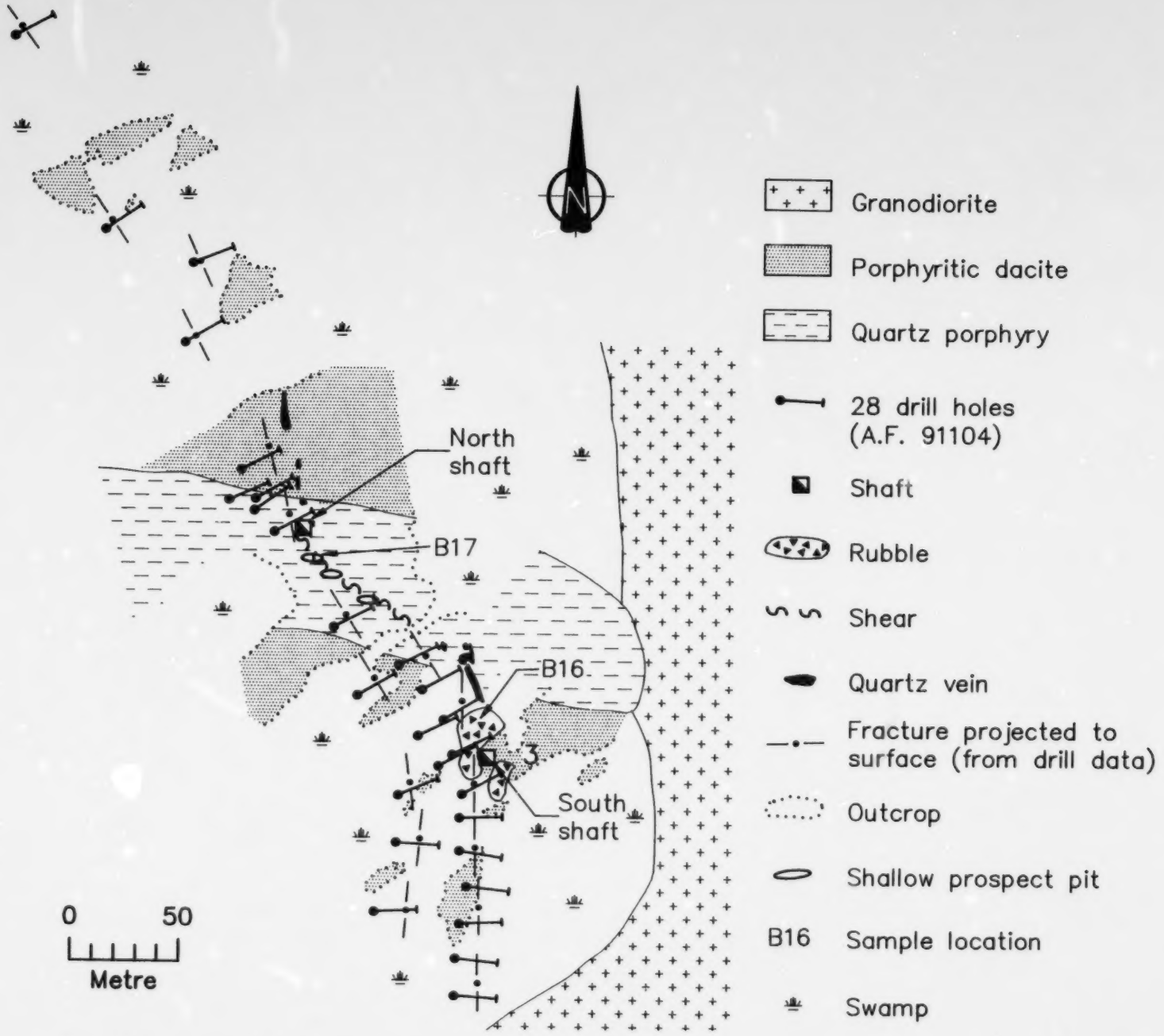



*Figure 3-2: Geology, drill hole and sample locations at occurrence 3*

**LOCATION:** 4

NAME: GOLD PAN MINE

UTM: 5649788N 315810E

ACCESS: Via Quesnel Lake access road and tractor trail

AREA: Approximately 1.2 km south of Gold Lake (Fig. 3-1)

AIRPHOTO: A24711-99

EXPLORATION SUMMARY:

Two gold occurrences in the area were initially staked in 1914. A total of four shafts were sunk on the properties and a mill was built near the Gold Pan deposit. Approximately 70 g of gold had been produced from these shafts by 1917. Mineral Inventory Card 52L/13NE Au4. DeLury (1921) mentioned that free gold was visible in the underground openings of the Gold Pan operation. After 1920, most of the work centered on the Gold Pan shaft. From 1919 to 1924, prior to the closure of the Gold Pan workings, a total of 7.49 kilograms of gold were produced from this deposit. Work on the property resumed in 1945 with a mapping, sampling and drilling program. Based on this survey it was recommended that further mining activities be suspended. The drilling of three holes (90 m total length) in 1980 and the installation of a small mill and flotation circuit in 1982 to process muck surrounding the Gold Pan shaft were the last known activities on these deposits.

GEOLOGICAL SETTING:

The Gold Pan and the Gold Seal deposits are located on a prominent, northwest striking shear zone up to m thick that transects porphyritic dacite and trachyte breccia as well as an approximately 9 m thick northerly striking diabase dyke. The shear zone hosts up to 1 m thick quartz lenses. Most gold was reportedly concentrated in a pipe-shaped configuration at the intersection of the shear zone and the diabase dyke. This observation led to speculations that the diabase dyke rocks were a favourable repository for mineralization due to structural (Cooke, 1922; Wright, 1923) or chemical reasons (Davies, 1953; Stephenson, 1972). At least part of the Gold Seal workings are exposed in a largely rubble filled trench approximately 85 m long and 1-2 m wide, that trends approximately 140°. The rubble contains minor milky white to cherty vein quartz with chloritic interlayers. The host rock is a uniformly dark grey trachytic conglomerate and breccia with felsic porphyritic components.

MINERALIZATION:

Sulphide mineralization of 1-2% pyrite and minor pyrrhotite occurs mainly in chloritic interlayers within generally barren vein quartz exposed in the Gold Seal trench. Samples of quartz from the muck pile surrounding the Gold Pan shaft contain erratic concentrations of pyrite and pyrrhotite clusters, minor chalcopyrite, malachite and rare sphalerite and galena (Fig. 4-1).

GEOCHEMICAL DATA:

Four grab samples from a muck pile in the vicinity of the Gold Pan shaft (Schmidtke 1984) were assayed (Table 4-1):

**Table 4-1: Gold analyses; Gold Pan Mine**

| Sample No. | Description | Concentration of gold (g/tonne) |
|---|---|---|
| 77-4-66 | quartz with minor pyrite | 14.4 g/tonne |
| 77-4-67 | quartz with "abundant" sulphides | 25.71 g/tonne |
| 77-4-68 | siliceous rocks with sulphides in chlorite | 1.37 g/tonne |
| 77-4-69 | diabase with minor pyrite | tr |

A sample (51-6-B14) from a quartz vein exposed at the Gold Seal shaft contained 1% pyrite and contained 1.04 g/tonne gold.

CLASSIFICATION:

Vein type deposits with multiple quartz lenses. Probably formed by mineralizing fluids focussed into a permeable fracture zone.

REFERENCES:


Cooke, H.C.

1922: Geology and mineral resources of Rice Lake and Oiseau River areas, Manitoba; In Geological Survey of Canada, Summary Report, Part C, 1921, p. 1-35.

Davies, J.F.

1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

DeLury, J.S.

1921: Mineral prospects in southeastern Manitoba (Rice Lake, Maskwa River and Boundary districts); Manitoba Government Bulletin, Commissioner of Northern Manitoba, 55 p.

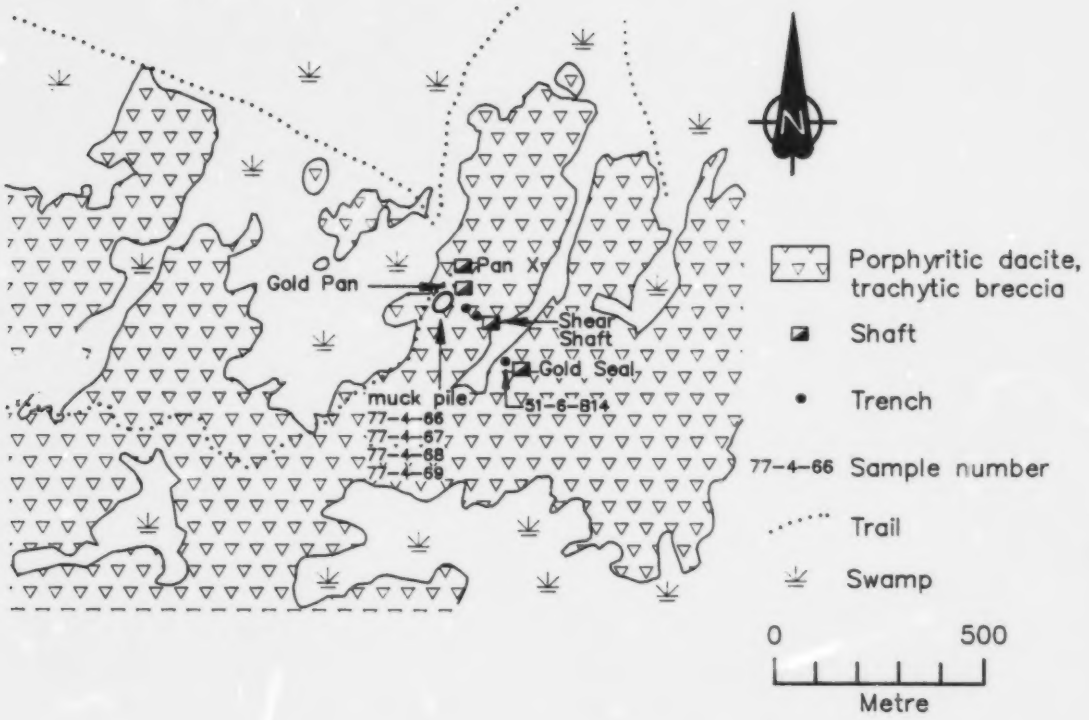



*Figure 4-1: Detailed map of the Gold Pan Mine (location 4).*

Mineral Inventory Card 52L/13 NE Au4
Manitoba Energy and Mines, Minerals Division.

Schmidtke, R.H.
1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stephenson, J.F.
1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. thesis (unpublished), 294 p.

Wright, J.F.
1923: Rice Lake map area, southeastern Manitoba; In Geological Survey of Canada, Summary Report, Part C, p. 45-88.

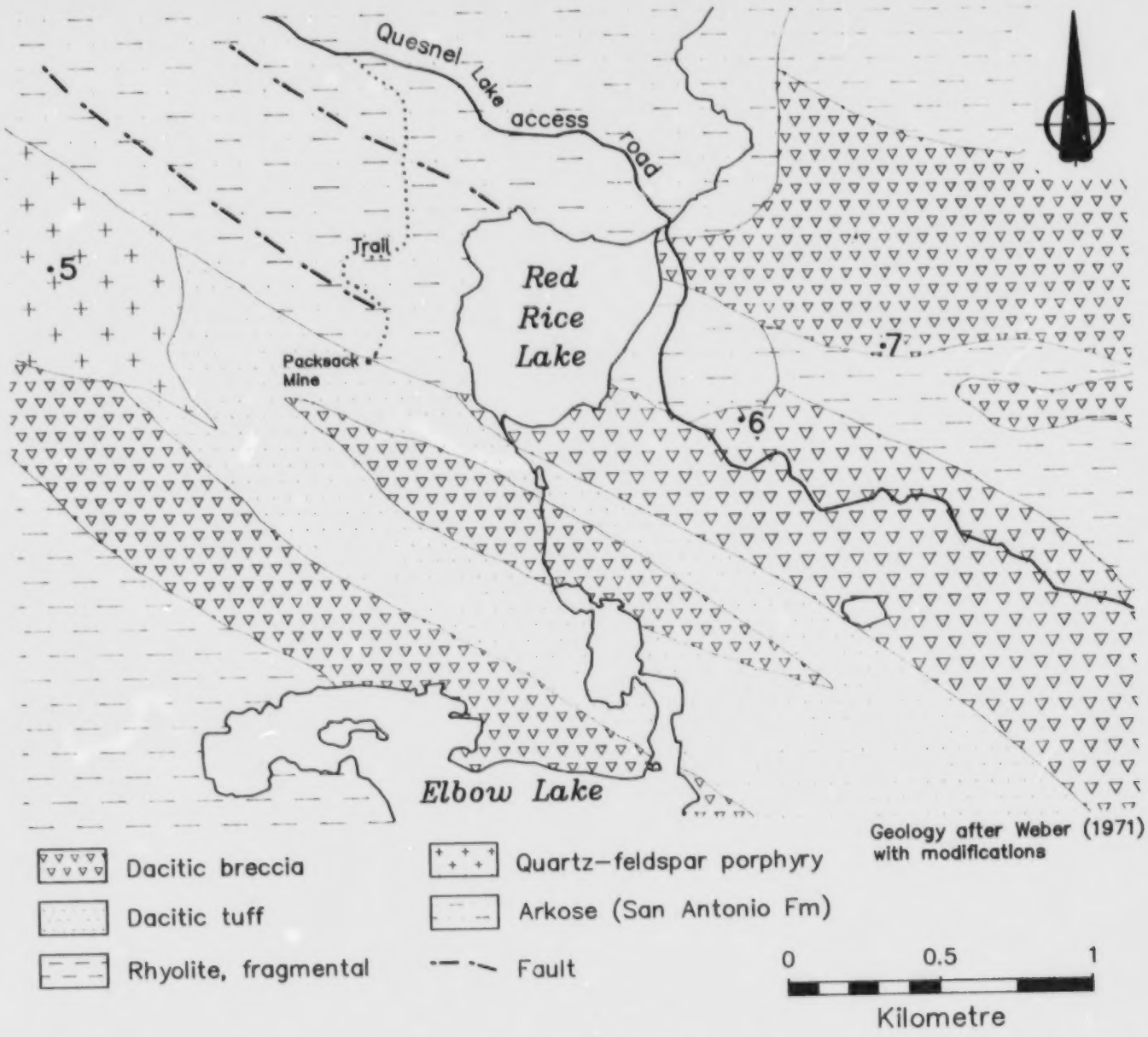



*Figure 5-1: Geological setting of occurrences 5 (Gilbert),6 (Cupp), and 7 (Wolf).*

**LOCATION: 5**

**NAME: GILBERT**

**UTM: 5653020N 309210E**

**ACCESS: Traverse approximately 1 km west from the Packsack Mine (Location #2).**

**AREA: Approximately 1.3 km west of Red Rice Lake (Fig. 5-1)**

**AIRPHOTO: A24713-91**

EXPLORATION SUMMARY:

This occurrence was described by DeLury (1921) as "outcrops that would merit sampling". Davies (1953) indicated that a shaft was sunk in the early thirties and that quartz with visible gold had been extracted. Several shallow pits were found in 1984 (Schmidtke 1984) (Fig. 5-2) but the shaft was not located.

GEOLOGICAL SETTING:

This occurrence consists of an array of quartz veins that occur within a homogeneous mafic rock that has been intruded by quartz-feldspar porphyry. The milky white to rose coloured quartz veins range from 1 cm to 1 m in thickness but are short and discontinuous.

MINERALIZATION:

Quartz rubble in the vicinity of the pits contains 0.1 to 1% disseminated pyrite. The mafic host rock contains sparse pyrite.

GEOCHEMICAL DATA:

A grab sample (77-4-9) of vein quartz with minor pyrite and traces of chalcopyrite contained 2.7 g/tonne gold. A grab sample (77-4-10) of the mafic host rock assayed 2.4 g/tonne gold.

CLASSIFICATION:

Vein type deposit.

REFERENCES:


Davies, J.F.
1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

DeLury, J.S.
1921: Mineral prospects in southeastern Manitoba (Rice Lake, Maskwa River and Boundary districts); Manitoba Government Bulletin, Commissioner of Northern Manitoba, 55 p.

Schmidtke, R.H.
1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

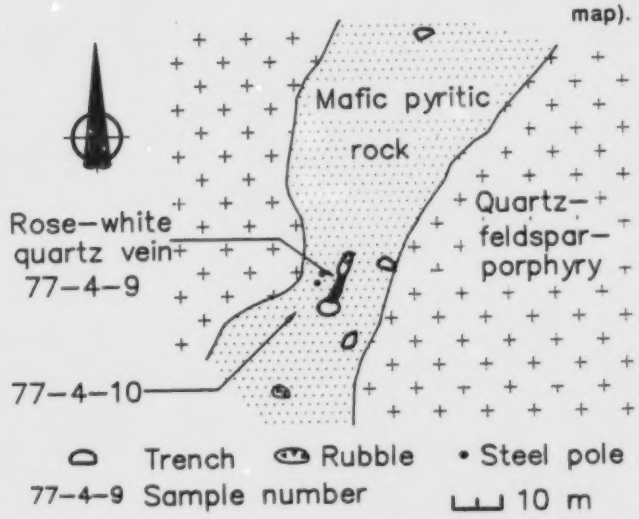




*Figure 5-2: Detailed geology and trench locations at occurrence 5 (Gilbert).*

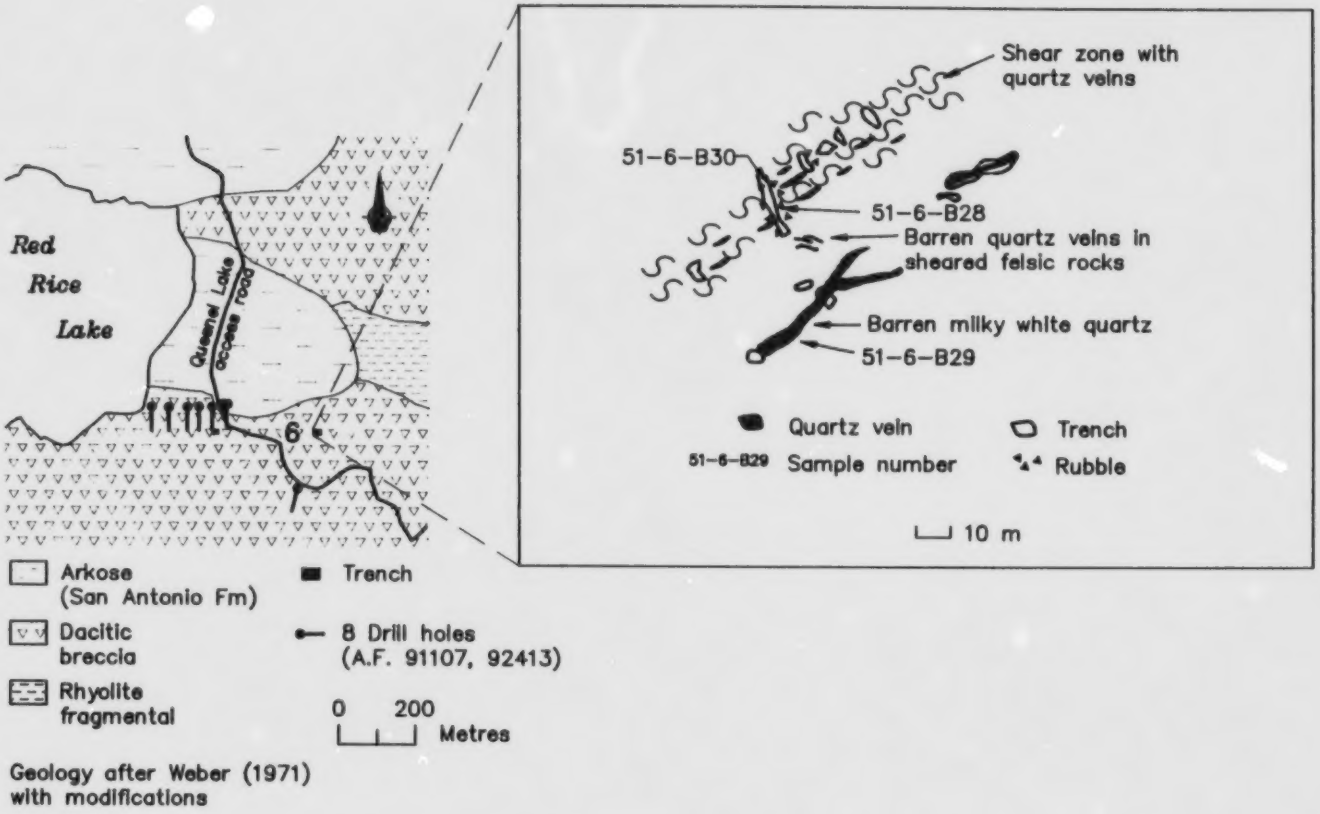



*Figure 6-1: Detailed geology and trench locations at occurrence 6 (Cupp)*

**LOCATION:** 6

NAME: CUPP

UTM: 5652340N 311350E
ACCESS: Via the Quesnel Lake access road.

AREA: Southeast of Red Rice Lake, partially underlying the Quesnel Lake access road (Fig. 5-1)
AIRPHOTO: A24713-91

EXPLORATION SUMMARY:

In 1957 eight holes, approximately 1100 m, were drilled to intersect an east striking fracture zone. An approximately 50 m deep hole was drilled on this occurrence in 1973 and an unspecified amount of drilling, blasting and sampling were performed in 1980. Eleven trenches, one of these approximately 10 x 3 x 1 m, several shallow pits, and six drill hole casings were identified on the property in 1980.

GEOLOGICAL SETTING:

The area is underlain by felsic to intermediate tuff and tuff breccia that are transected by an approximately east-striking (240°-290°), up to 15 m thick, fracture zone. Rocks in the fracture zone are weakly carbonatized and numerous tension gashes are occupied by discontinuous anastomosing milky white to glassy quartz veins and lenses.

Drilling in 1957 (A.F. 91107) west of the Quesnel Lake access road (Fig. 6-1) intersected an east-striking "contact" zone of "granitized andesite" and/or carbonatized andesitic breccia (1.5-3.0 m in thickness), that probably represents the fracture zone visible on surface. A hole, approximately 250 m southeast of the west-east row of seven holes, intersected schistose porphyritic dacite breccia containing numerous quartz stringers and seams with minor amounts of pyrite (A.F. 92413).

MINERALIZATION:

"Minor" amounts of pyrite were intersected in carbonatized andesitic breccia and quartz veins. None of the files contain assay results. Surficial quartz veins are generally barren of mineralization with the exception of occasional knots and pockets of pyrite, chalcopyrite and rare malachite stains.

GEOCHEMICAL DATA:

Grab samples from the exposure west of the Quesnel Lake access road contained:

a) 77-4-134 (quartz vein) - 5.8 g/tonne gold

b) 77-4-135 (altered felsic breccia) - 13 ppb gold

Grab samples from trenches east of the Quesnel Lake access road (Fig. 6-1) contained:

**Table 6-1: Gold analyses; mineral occurrence at location 6**

| Sample No. | Description | Au |
|---|---|---|
| 51-6-B28 | quartz with ankerite and 3-4% pyrite | 9.9 g/tonne |
| 51-6-B29 | quartz, milky white, barren | 5 ppb |
| 51-6-B30 | quartz with up to 15% pyrite | 660 ppb |

CLASSIFICATION:

Vein type deposit. Probably formed by mineralizing fluids focussed along a permeable fracture zone.

REFERENCES:

Assessment Files 91107, 93413, 92421; Manitoba Energy and Mines, Minerals Division.

Schmidtke, R.H.
1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

**LOCATION:** 7

NAME: WOLF

UTM: 5652600N 311900E

ACCESS: Via Quesnel Lake access road to approximately 0.3 km southeast of Red Rice Lake; from this point traverse approximately 0.9 km in a direction of 65°.

AREA: Approximately 0.9 km east of Red Rice Lake (Fig. 5-1)

AIRPHOTO: A24713-91

EXPLORATION SUMMARY:

This property was first staked in 1917 and explored by a pit in the ensuing years. Additional work consisted of bulk sampling and diamond drilling in 1949. An exploration program undertaken on this property in 1981 included mapping, prospecting and diamond drilling.

GEOLOGICAL SETTING:

The area is underlain by rhyolitic to dacitic rocks of the Rice Lake Group. An east-striking shear zone hosts a locally 4 m thick quartz vein, that is exposed for approximately 61 m along strike. Numerous discontinuous, parallel to subparallel quartz veins occur in the immediate vicinity of the shear. Abundant randomly oriented quartz veins that are generally barren of sulphides occur in quartz porphyry, andesitic breccia and mafic dykes.

MINERALIZATION:

Sulphide mineralization consists of vein networks and pockets of pyrite, pyrrhotite and chalcopyrite in concentrations that range from trace amounts to near-solid sulphide veins up to 20 cm in thickness.

GEOCHEMICAL DATA:

A 4 m long chip sample of vein quartz with chloritized wallrock inclusions and disseminated pyrite and pyrrhotite contained 781 ppb gold. A 0.9 tonne bulk sample reportedly contained 36.7 g/tonne gold, 51.4 g/tonne silver and 1.43% copper. The highest gold concentration in core drilled in 1949 was reported as 2.4 g/tonne (Mineral Inventory Card 52L/13NE Au5).

CLASSIFICATION:

Vein type deposit.

REFERENCES:


Davies, J.F.
1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

Mineral Inventory Card 52L/13/NE Au5
Manitoba Energy and Mines, Minerals Division.

Stephenson, J.F.
1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. thesis (unpublished), 294 p.

Stewart, P.W.
1985: Mineral occurrence documentation in the Rice Lake greenstone belt; In Manitoba Energy and Mines, Geological Services, Mines Branch, Report of Field Activities 1985, p. 133-147.

**OCATION: 8**

NAME: RANGER
UTM: 5652080N 314540E
ACCESS: Walk approximately 1.5 km north along the right-of-way of the abandoned powerline that crosses the Quesnel Lake access road. The Ranger occurrence is located approximately 150 m east of the powerline.

AREA: Approximately 1.6 km west of Gold Lake (Fig. 8-1)
AIRPHOTO: A24711-98

EXPLORATION SUMMARY:

This occurrence was first staked in 1912 and a 14-18 m deep shaft had been sunk by 1914. Diamond drilling was undertaken on contiguous claims in the fifties but the property remained dormant until a mapping and prospecting program was undertaken in 1981. (Mineral Inventory Card 52L/13NE Au6).

GEOLOGICAL SETTING:

The area is underlain by rhyolite, dacite and mafic fragmental rocks.

MINERALIZATION:

A north-west striking, 5 m thick, fracture zone contains a milky white to grey quartz veins with abundant chloritic inclusions. The quartz veins are intermittently exposed for approximately 210 m within 23 pits and a shaft. Minor pyrite and traces of pyrrhotite are disseminated throughout the quartz veins.

GEOCHEMICAL DATA:

An average concentration of 13.7 g/tonne gold was reported for this occurrence (Stockwell, 1938). New Forty Four Mines estimated in 1981 that the property contains possible reserves of 1,787 tonnes grading 13.7 g/tonne gold.

Five rock samples (See Fig. 8-2) collected in 1985 were assayed for gold (Table 8-1).

**Table 8-1: Gold analyses; Ranger mineral occurrence**

| Sample No. | Description | Au |
|---|---|---|
| 77-4-101A | Chip sample, 1 m long, carbonate-quartz, minor pyrite and chalcopyrite | 12.6 g/tonne |
| 77-4-101B | Grab sample, carbonate-quartz rubble, minor pyrite | 134 ppb |
| 77-4-101C | Grab sample, pit rubble barren quartz | 148 ppb |
| 77-4-101D | Grab sample, silicified mafic rock, minor pyrite and chalcopyrite | 167 ppb |
| 77-4-101E | Grab sample, barren, silicified rock | 6 ppb |

CLASSIFICATION:

Vein type deposit. Probably formed by mineralizing fluids focussed into a permeable fault zone.

REFERENCES:


Mineral Inventory Card 52L/13 NE Au6
Manitoba Energy and Mines, Minerals Division.

Stephenson, J.F.
1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. thesis (unpublished), 294 p.

Stewart, P.W.
1985: Mineral occurrence documentation in the Rice Lake greenstone belt; In Manitoba Energy and Mines, Geological Services, Mines Branch, Report of Field Activities 1985, p. 133-147.

Stockwell, C.H.
1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.
1945: Rice Lake, Manitoba; Geological Survey of Canada, Map 810A, one inch to one mile.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

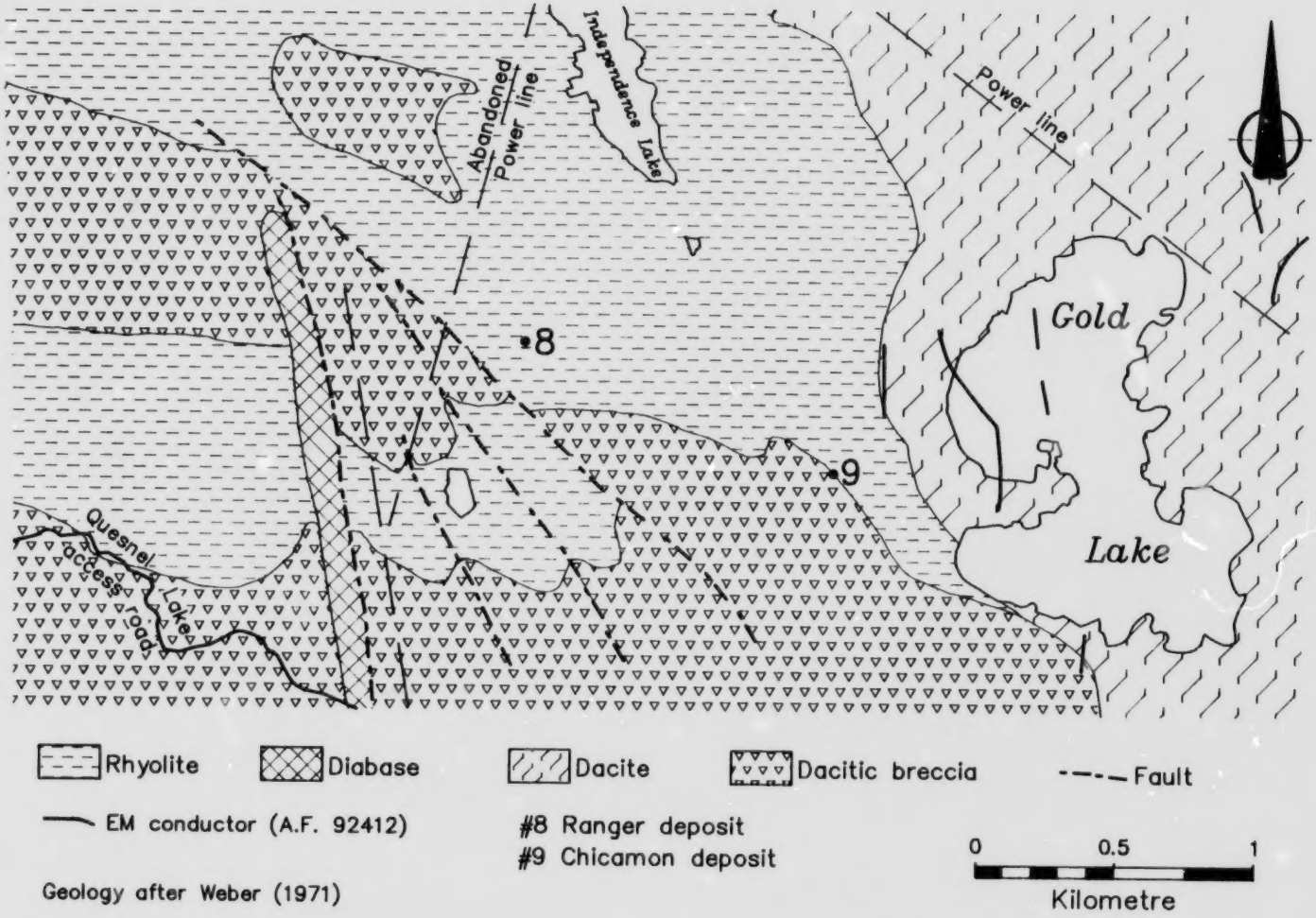



*Figure 8-1: Geological setting of occurrences 8 (Ranger) and 9 (Chicamon).*

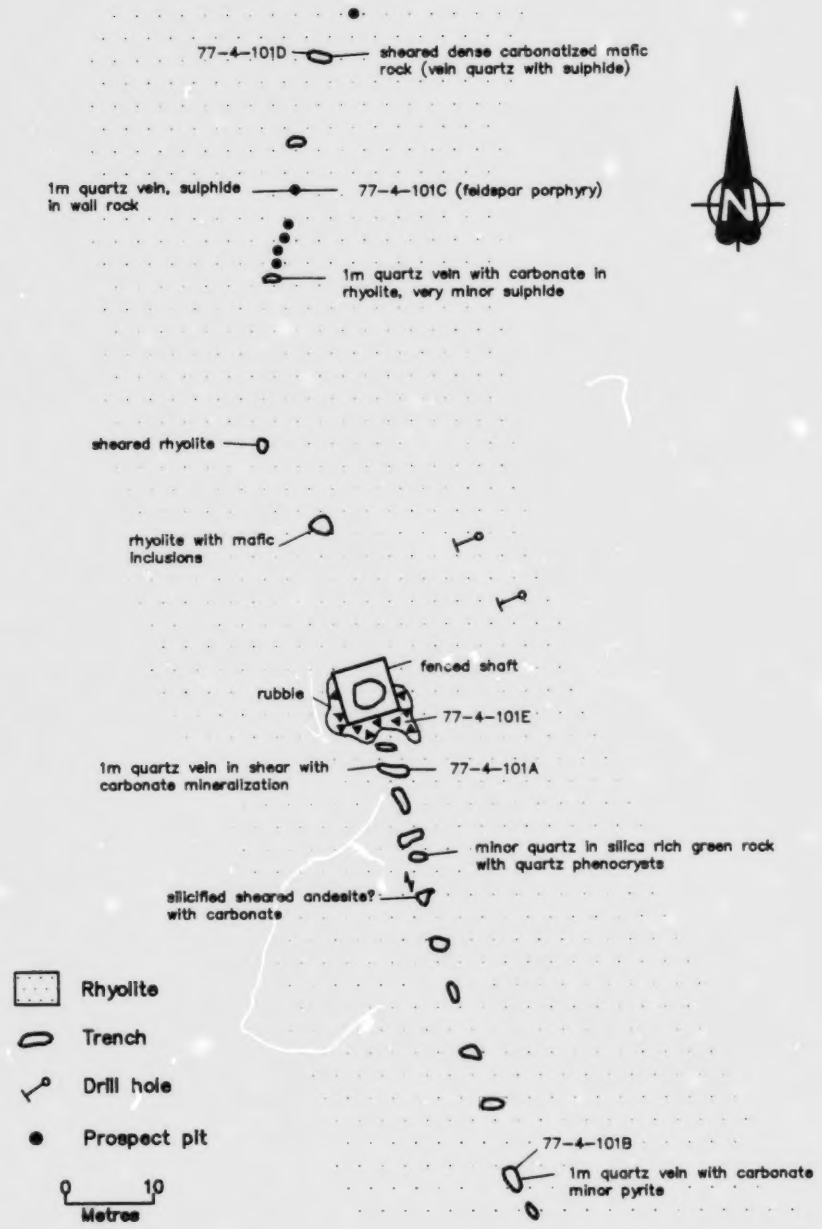



*Figure 8-2: Geology, drill hole, trench and sample locations at occurrence 8 (Ranger).*

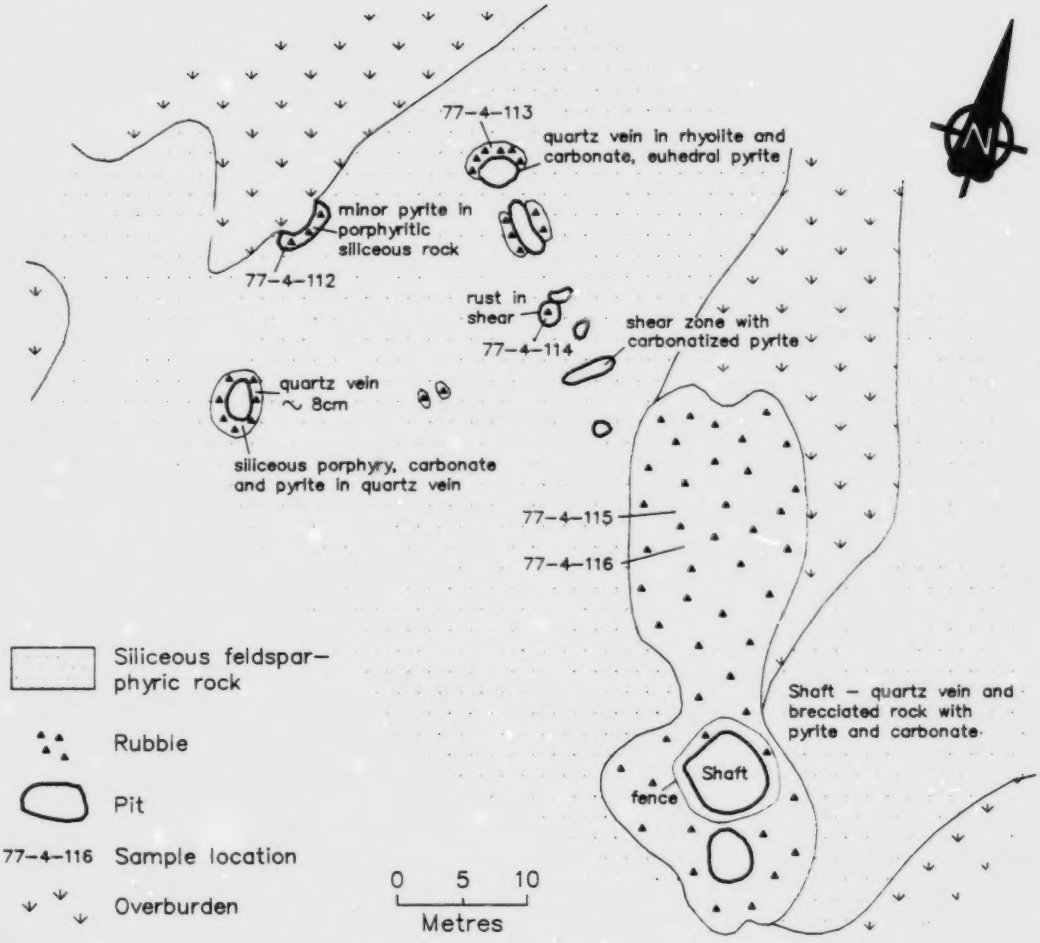



*Figure 9-1: Geology of occurrence 9 (Chicamon).*

**LOCATION: 9**

NAME: CHICAMON
UTM: 5651575N 315640E
ACCESS: a) Float plane to Gold Lake and traverse for approximately 500 m in a westerly direction; or,
b) Follow the winter road from the Gold Pan Mine (#4) to the Chicamon deposit; an ATV capable of negotiating swamps is an asset on these roads.

AREA: Approximately 1.4 km west of Gold Lake (Fig. 8-1)
AIRPHOTO: A24711-98

EXPLORATION SUMMARY

This property was staked in 1914. A shaft was sunk to a depth of 26.2 m in the years prior to 1919. It is reported that approximately two tons of "high grade ore" from this deposit were beneficiated yielding approximately 280 g of gold (Stockwell, 1938 p. 71). A sampling program was conducted in 1936. Airborne MAG and EM surveys were carried out in 1973.

GEOLOGICAL SETTING

Discontinuous quartz veins and lenses occur within a northwest striking shear zone that crosscuts porphyritic rhyolite and dacite of the Rice Lake Group. Test pits expose sheared and carbonatized felsic rocks containing milky white quartz veins and lenses for a distance of approximately 50 m. The total length of the shear zone is approximately 122 m (Mineral Inventory Card 52L/13NE Au9).

MINERALIZATION:

The quartz is mineralized with sparse (1%) disseminated fine grained pyrite and sporadic pockets of abundant coarse grained (3-8 mm) euhedral pyrite. Coarse pyrite cubes are also observed in the host rocks adjacent to the quartz veins. Trace amounts of chalcopyrite are disseminated throughout the quartz. Visible gold has been reported to occur in this deposit.

GEOCHEMICAL DATA:

Four samples collected from the shaft in 1915 contained an average concentration of approximately 68 g/tonne Au. Resampling of the shaft in 1936 returned assays ranging from approximately 17 g/tonne to approximately 95 g/tonne Au (Mineral Inventory Card 52L/13NE Au9.)

Gold analyses for samples collected in 1984 (Schmidtke 1984) are presented below and sample locations are indicated on Figure 9-1.

**Table 9-1: Gold analyses; mineral occurrence at location 9**

| Sample No. | Description | Au |
|---|---|---|
| 77-4-112 | Felsic porphyry; minor disseminated pyrite | 28 ppb |
| 77-4-113 | Pit rubble; quartz with euhedral pyrite | 5.5 g/tonne |
| 77-4-114 | Pit rubble; felsic porphyry, rust stains | 59 g/tonne |
| 77-4-115 | Rubble in vicinity of shaft; felsic porphyry minor disseminated pyrite | 86 ppb |
| 77-4-116 | Grab sample adjacent to shaft; felsic porphyry with minor disseminated pyrite | 13.1 g/tonne |

CLASSIFICATION:

Vein type deposit.

REFERENCES


Mineral Inventory Card 52L/13 NE Au9
Manitoba Energy and Mines, Minerals Division

Schmidtke, R.H.
1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stephenson, J.F.
1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. thesis (unpublished), 294 p.

Stockwell, C.H.
1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

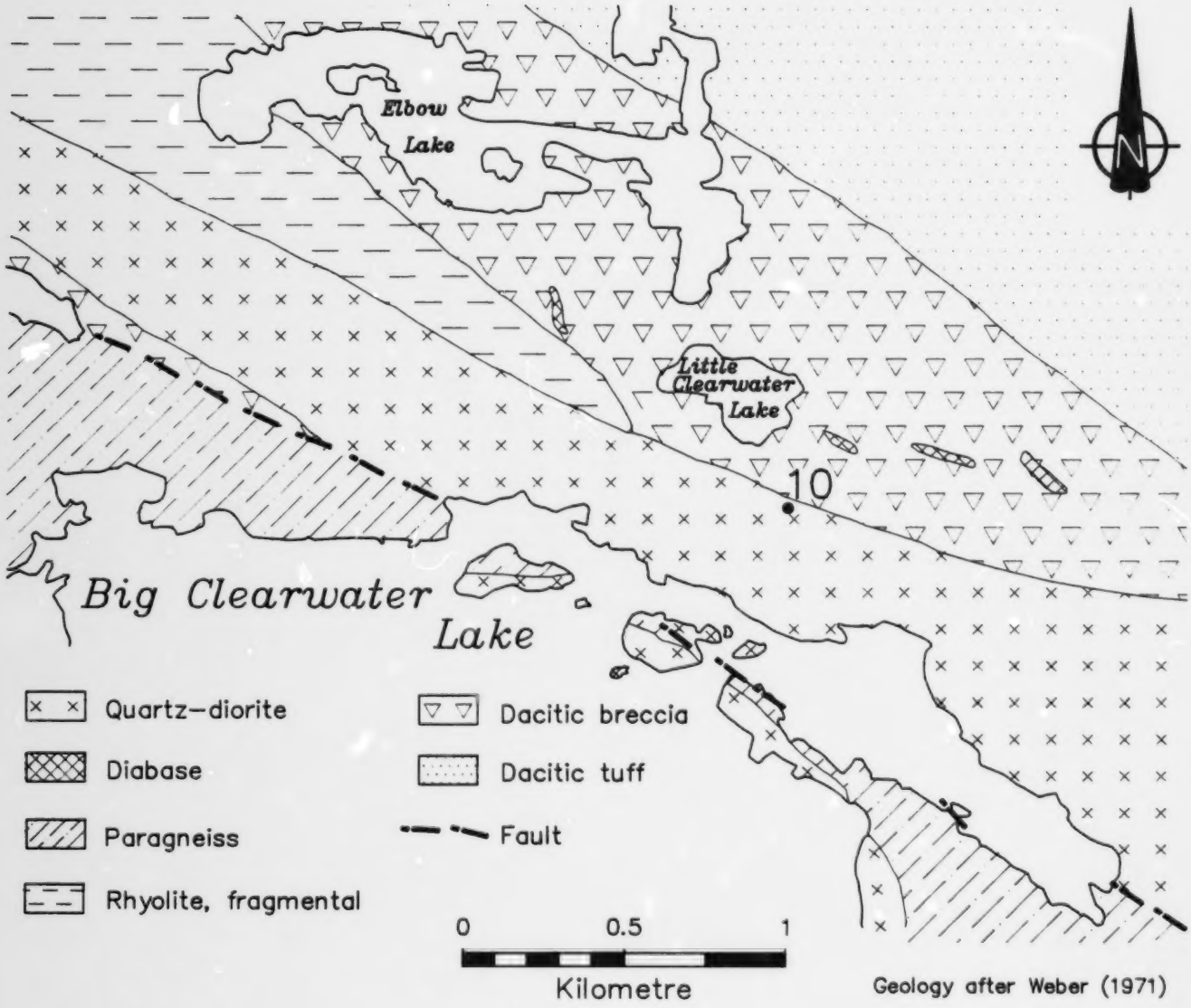



*Figure 10-1: Geological setting of occurrence 10 (Pendennis).*

**LOCATION:** 10

NAME: PENDENNIS

UTM: 5650190N 311210E

ACCESS: Via Quesnel Lake road and bush trail; an ATV capable of travelling in swamps would be an asset for the latter part of the journey.

AREA: Between Little and Big Clearwater Lakes (Fig. 10-1)

AIRPHOTO: A24713-48 (access to occurrence), A24713-93 (location of occurrence)

EXPLORATION SUMMARY:

Initial staking of this property took place in 1915. A shaft was sunk to a depth of approximately 15 m in the following year and several pits and trenches were dug between 1917 and 1929. A drilling program was carried out in 1984; results of this work have not been released.

GEOLOGICAL SETTING:

Massive, homogeneous quartz diorite of the Ross River Pluton forms an approximately 200 m thick apophysis intruding felsic volcanic rocks of the Rice Lake Group. The Pendennis occurrence is in quartz veins and lenses that occupy a northwesterly trending shear zone in the quartz diorite The shear is subparallel to the contact between the granodiorite and volcanic rocks. The quartz veins are discontinuous, attain a maximum length of approximately 5 m and a maximum thickness of approximately 15 cm. They are exposed in several pits and one shaft (Fig. 10-2).

MINERALIZATION:

Pyrite, minor chalcopyrite and less common rust stains are concentrated in the vicinity of the Pendennis shaft where pockets of approximately 20% pyrite were observed. Quartz veins approximately 40 m from the shaft contain less than 1% disseminated pyrite.

GEOCHEMICAL DATA:

There are no published gold ore tonnages, grade and/or assay results available, although there is an indication that ore from this occurrence was mined (Mineral Inventory Card 52L/13NE Au10).

A grab sample, from the vicinity of the shaft, of quartz rubble containing approximately 20% pyrite, and minor chalcopyrite contained 9.4 g/tonne Au.

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Mineral Inventory Card 52L/13NE Au10
Manitoba Energy and Mines, Minerals Division.

Stephenson, J.F.
1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. thesis (unpublished), 294 p.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; in Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

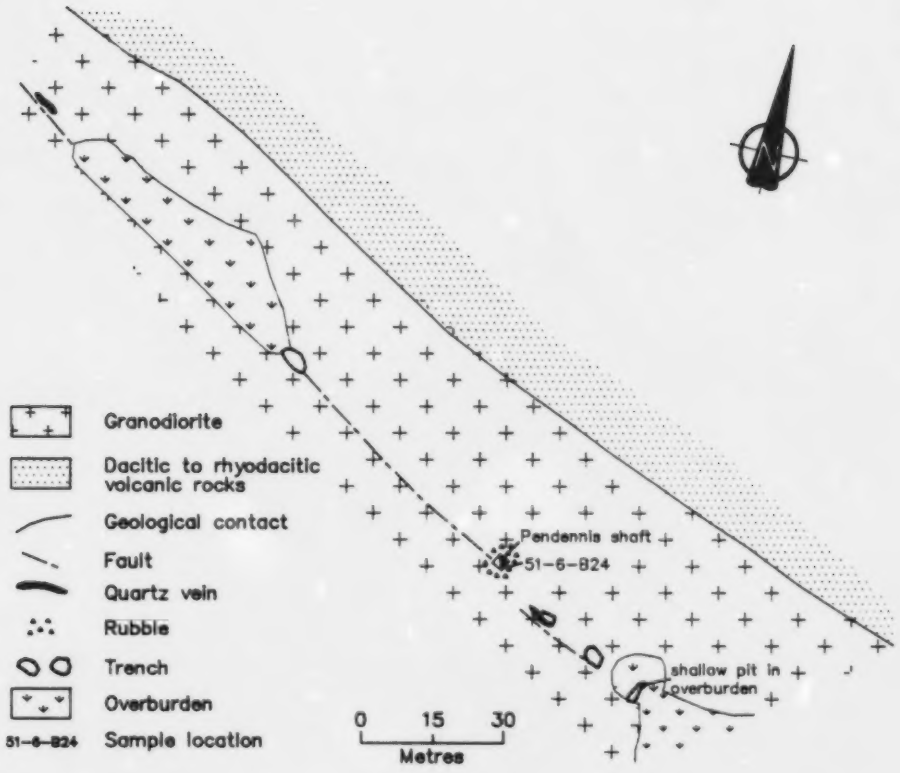



*Figure 10-2: Geology, trench and sample location at occurrence 10 (Pendennis).*

**LOCATION:** 11

NAME: GOLD VEIN

UTM: 5649190N 316860E

ACCESS: Via Quesnel Lake access road and a tractor trail to the Gold Pan Mine (Fig. 3-1) and follow the winter road network; an ATV designed for the use in swampy areas is recommended for the latter part of the journey.

AREA: Approximately 1.85 km south of Gold Lake (Fig. 11-1)

AIRPHOTO: A24711-99

EXPLORATION SUMMARY:

The only mention of this occurrence in the literature is in brief notes that indicate the quartz-bearing shear zone of the Moose deposit continues to the northwest. The location of one of the two Gold Vein shafts is shown by Davies (1952). Several trenches and two shafts, approximately 200 m apart were located. Most trenches are filled with overburden and the shafts contain water.

GEOLOGICAL SETTING:

Discontinuous quartz veins and lenses occupy a northwest trending shear zone that transects partially granitized dacitic to rhyodacitic volcanic rocks.

MINERALIZATION:

The shear zone consists of dark grey to black fault gouge that is locally silicified, carbonatized and chloritized. The quartz lenses are generally milky white and barren of sulphides. The highest concentration of sulphide observed was approximately 3% disseminated pyrite in rubble from the south shaft.

GEOCHEMICAL DATA:

A grab sample of rubble at the southern shaft contained 3.2 g/tonne Au (Fig. 11-2).

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Davies, J.F.

1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; in Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

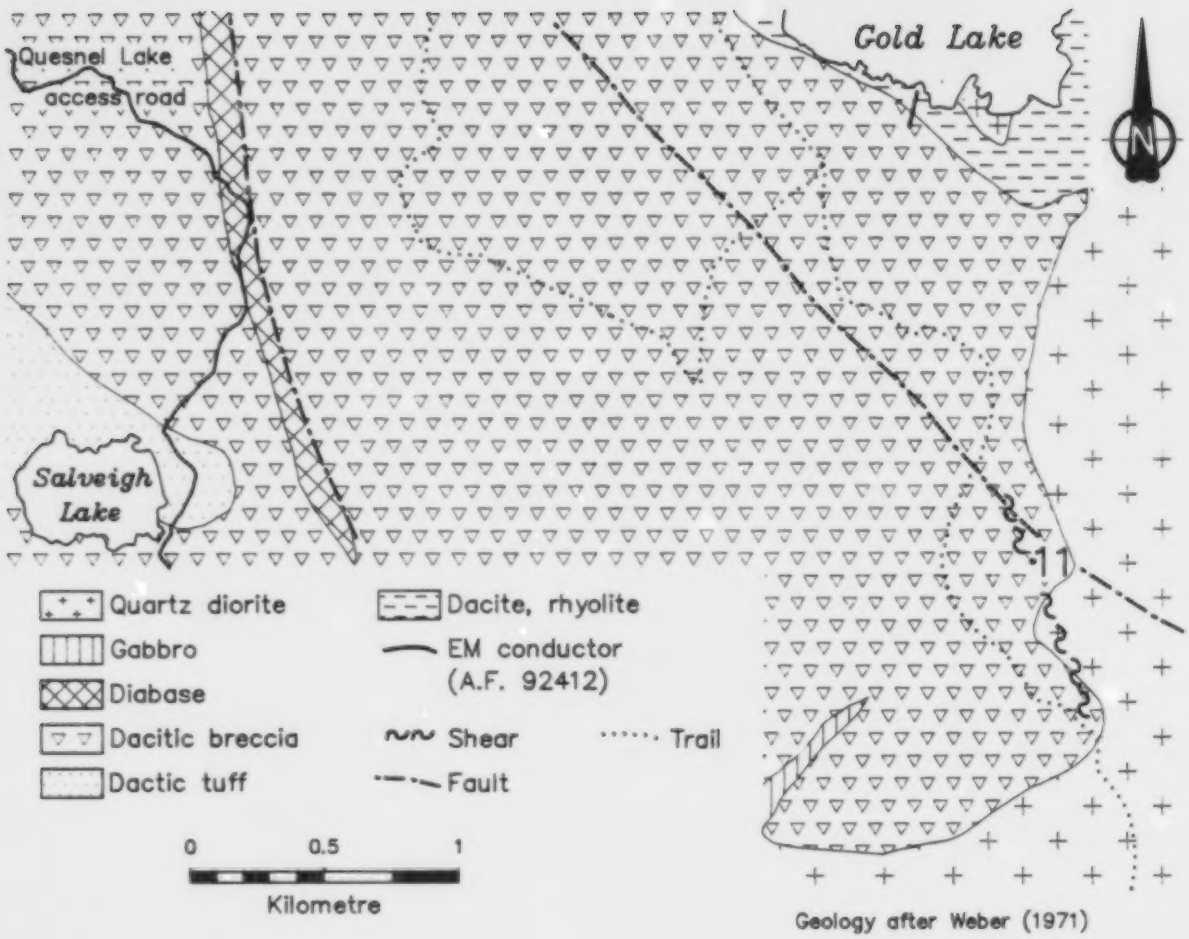



*Figure 11-1: Geological setting of occurrence 11 (Gold Vein).*

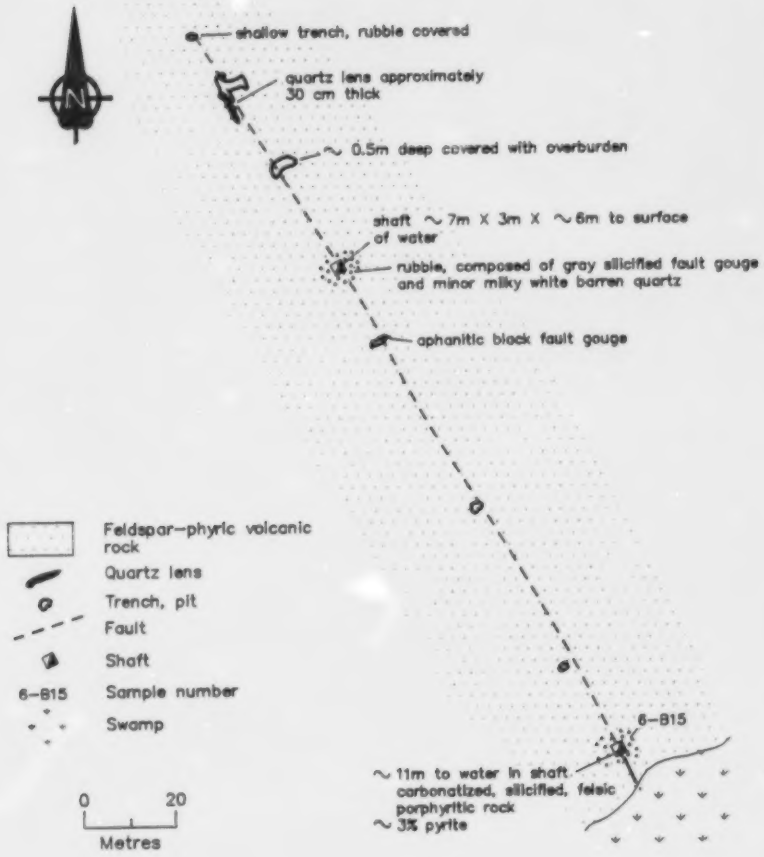



*Figure 11-2: Trench and sample location at occurrence 11 (Gold Vein).*

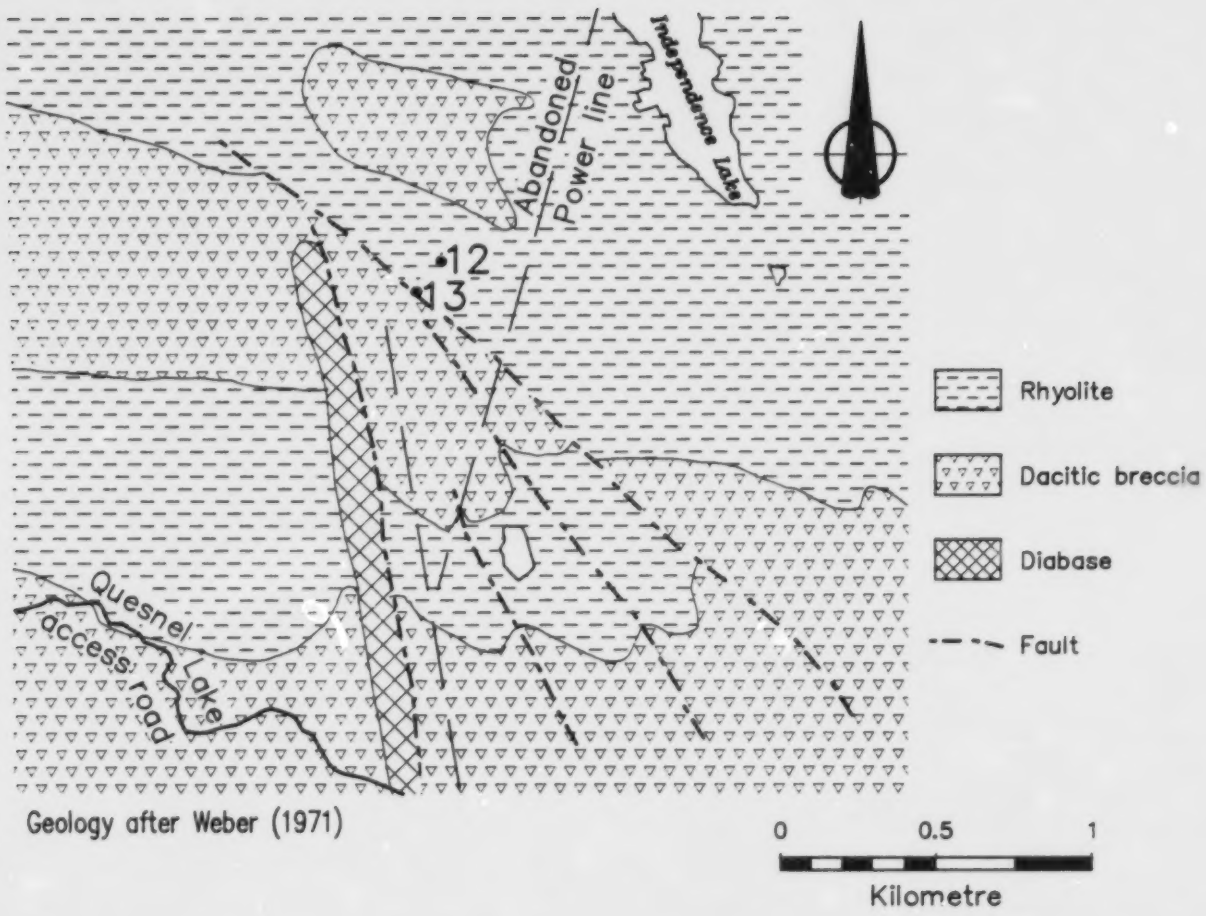



*Figure 12-1: Geological setting of occurrences 12 and 13.*

**LOCATION:** 12

NAME:

UTM: 5652490N 314075E

ACCESS: Via Quesnel Lake access road to the abandoned power line; walk along the powerline for approximately 1.9 km in a northerly direction. Occurrence 12 is approximately 100 m east of this point (Fig. 12-1).

AREA: Approximately 0.9 km southwest of Independence Lake

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

Three pits contiguous with each other were found in 1986. They do not appear to have been disturbed for several decades. There are no published records known for this property.

GEOLOGICAL SETTING:

Light grey massive feldspar-phyric volcanic rocks are transected by an approximately 60 m thick, north trending shear zone that contains up to 30 cm thick white to glassy quartz veins.

MINERALIZATION:

Up to approximately 1% disseminated pyrite occurs within the quartz lenses and in the immediately adjacent host rocks.

GEOCHEMICAL DATA:

A grab sample,composed of quartz and host rock with approximately 1% pyrite taken from the rubble of the southernmost pit, contained 440 ppb Au.

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

**LOCATION:** 13

NAME:

UTM: 5652400N 314065E

ACCESS: Via Quesnel Lake access road to an abandoned power line; walk approximately 1.8 km along the powerline in a northerly direction. This occurrence is approximately 100 m east of this point at the edge of a swamp.

AREA: Approximately 1 km southwest of Independence Lake (Fig. 12-1)

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

No published records describing this property are known. One pit found in 1986 appears to have been undisturbed for at least a decade.

GEOLOGICAL SETTING:

The area is underlain by a massive, locally feldspar-phyric rock. The rock in the vicinity of the pit, is intensely sheared to a quartz-sericite schist containing discontinuous pods and lenses of ankerite.

MINERALIZATION:

Sulphide mineralization consists of less than 1% pyrite in the sheared rocks.

GEOCHEMICAL DATA:

A grab sample (51-6-B-23) from the rubble in the pit, containing quartz and ankerite contained 65 ppb gold.

CLASSIFICATION:

Vein type deposit. Disseminated sulphides in carbonate veins.

REFERENCES:

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

**LOCATION:** 14

NAME:
UTM: 5649436N 313665E
ACCESS: Via the Quesnel Lake access road.

AREA: East of Salveigh Lake (Fig. 14-1)
AIRPHOTO: A24713-48

EXPLORATION SUMMARY:

Three holes were drilled and one trench was excavated in this area between 1937 and 1954 (A.F. 91103).

GEOLOGICAL SETTING:

The area is underlain by a complex of porphyritic andesite and dacitic breccia.

MINERALIZATION:

A geological sketch map by Gold Lake Mines (1937) indicates the area is underlain by rocks containing multiple quartz veins mineralized with ankerite, tourmaline, pyrite, sphalerite, galena and gold. A trench at the south shore of Salveigh Lake (Fig. 14-1) exposed an approximately 50 cm thick quartz vein that contains approximately 1% pyrite. The highest concentrations of sulphides was approximately 3% in isolated pockets.

Rocks intersected in the diamond drilling program are partially silicified and carbonatized and contain sparse pyrite.

GEOCHEMICAL DATA:

Rock samples collected by Gold Lake Mines (A.F. 91103) from this trench were reported to contain 15-30 g/tonne gold. Rock samples, collected from the trench in 1988, contain vein quartz mineralized with 1% pyrite contained 2.2 g/tonne gold.

CLASSIFICATION:

Vein type deposit.

REFERENCES

Assessment File 91103
Manitoba Energy and Mines, Minerals Division.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

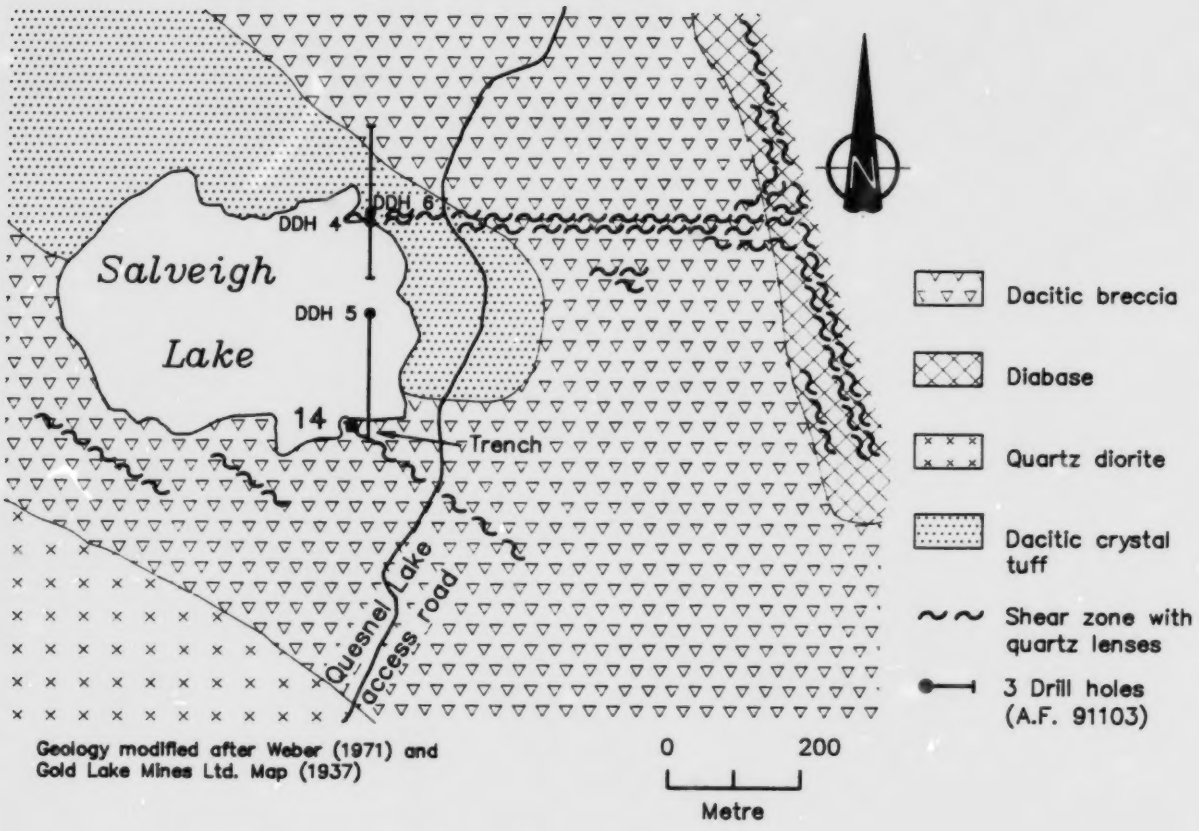



*Figure 14-1: Geological setting of occurrence 14 (52L/13NE).*

**LOCATION:** 15

NAME: YANKEE GIRL

UTM: 5652020N 311970E

ACCESS: Via the Quesnel Lake access road. This occurrence partially underlies the road.

AREA: Approximately 1.1 km southeast of Red Rice Lake (Fig. 15-1)

AIRPHOTO: A24713-91

EXPLORATION SUMMARY:

The Yankee Girl or No. 2 zone is referred to in several geological accounts of the area starting as early as 1921 (DeLury, 1921). However, the only record of exploration work indicates that four holes, with a combined length of approximately 157 m, were drilled on the vein near the Quesnel Lake access road (Davies, 1953, p.31).

GEOLOGICAL SETTING:

A northwest trending shear zone transects dacitic breccia and tuff breccia of the Rice Lake Group. It hosts several subparallel, discontinuous, quartz veins and lenses. The "Yankee Girl" vein, the largest of these milky white quartz veins, is approximately 18 m thick in the vicinity of the road.

MINERALIZATION:

The quartz vein contains traces of fine grained pyrite. Minor tourmaline and ankerite are also present.

GEOCHEMICAL DATA:

Records of sampling and/or assays are not available in the literature. A grab sample of quartz vein rubble (sample 77-4-31) contained nil gold.

CLASSIFICATION:

Vein type deposit. Quartz vein largely barren of sulphides.

REFERENCES:


Davies, J.F.

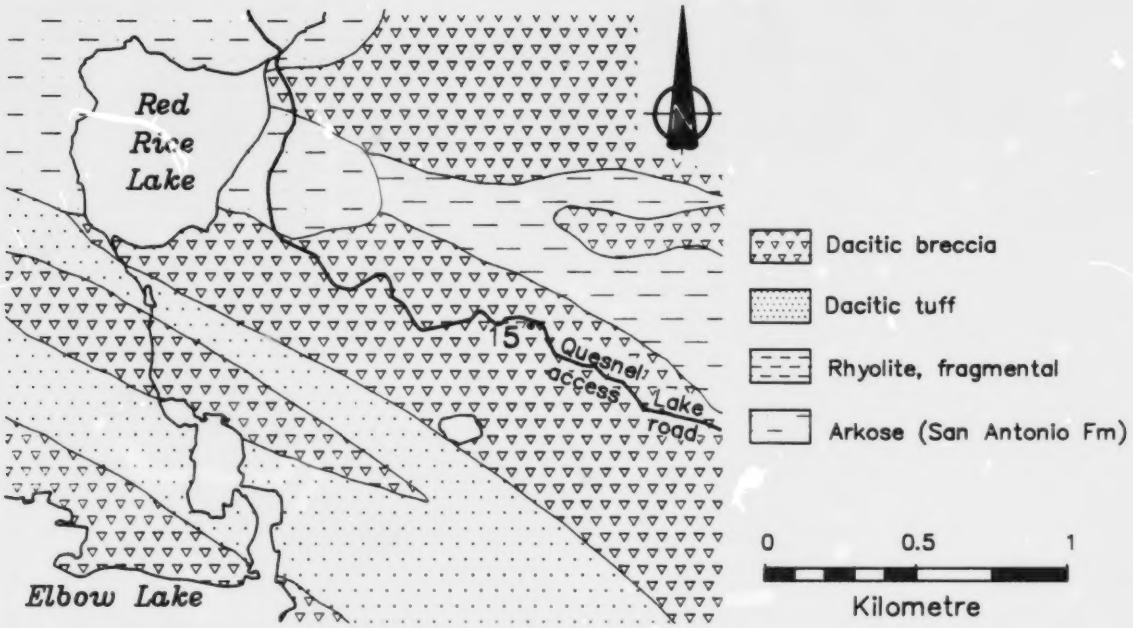
1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

DeLury, J.S.

1921: Mineral prospects in southeastern Manitoba (Rice Lake, Maskwa River and Boundary districts); Manitoba Government Bulletin, Commissioner of Northern Manitoba, 55 p.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).




Geology after Weber (1971) with modifications

*Figure 15-1: Geological setting of occurrence 15 (Yankee Girl) (52L/13NE).*

**LOCATION:** 16

NAME: SOSUEME
UTM: 5651105N 313300E
ACCESS: Via the Quesnel Lake access road. This occurrence is located adjacent to the road.

AREA: Southeast of Red Rice Lake (Fig. 16-1)
AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

The only published exploration record for this occurrence is a report of a rock sampling program undertaken in 1982 (A.F. 92538). Several small pits and a partial adit expose the mineralization.

GEOLOGICAL SETTING:

A roughly east-west striking shear zone transects a complex of felsic volcanic tuff, tuff breccia and minor stocks of quartz- and quartz feldspar-porphyry. Quartz lenses are concentrated in an intensely sheared zone of approximately 5 m thickness. Minor shearing and small quartz lenses also occur several tens of metres on either side of the main shear.

MINERALIZATION:

This occurrence consists of discontinuous quartz veins and lenses. Up to 15% pyrite, pyrrhotite and minor chalcopyrite occur as disseminations and in isolated pockets within the quartz. The sulphides also occur in the host rock adjacent to the quartz veins. Sulphide mineralization is accompanied by carbonatization, chloritization and sericitization.

GEOCHEMICAL DATA:

Sampling of several pits undertaken on behalf of New Forty Four Mines in 1982, contained Au assay results ranging from trace to 24.7 g/tonne (A.F. 92538). A rock sampling program undertaken by the Geological Services Branch in 1984 contained comparable results; sample locations and results are displayed on Figure 16-2.

CLASSIFICATION:

Vein type deposit. A shear zone associated with a major east striking fault system focussed mineralizing fluids causing alteration of the host rock and the deposition of quartz, sulphides and minor gold.

REFERENCES:

Assessment File 92538
Manitoba Energy and Mines, Minerals Division.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

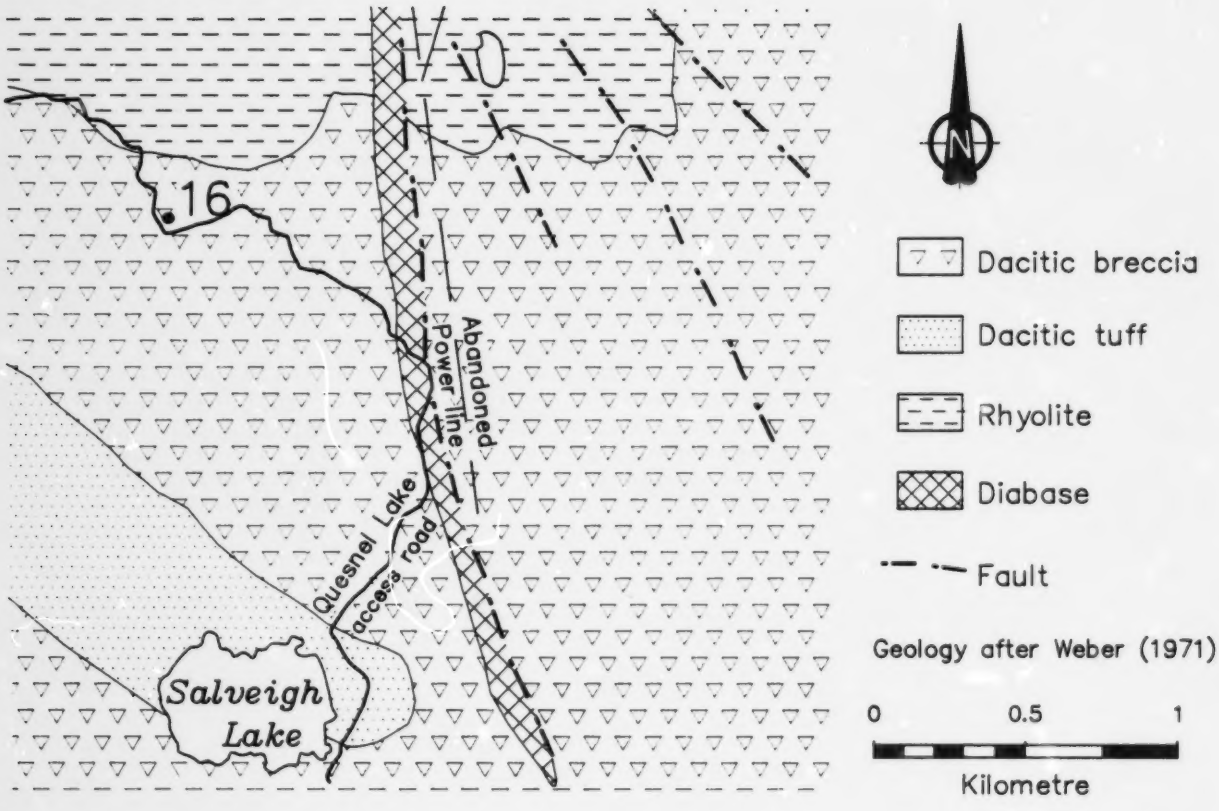
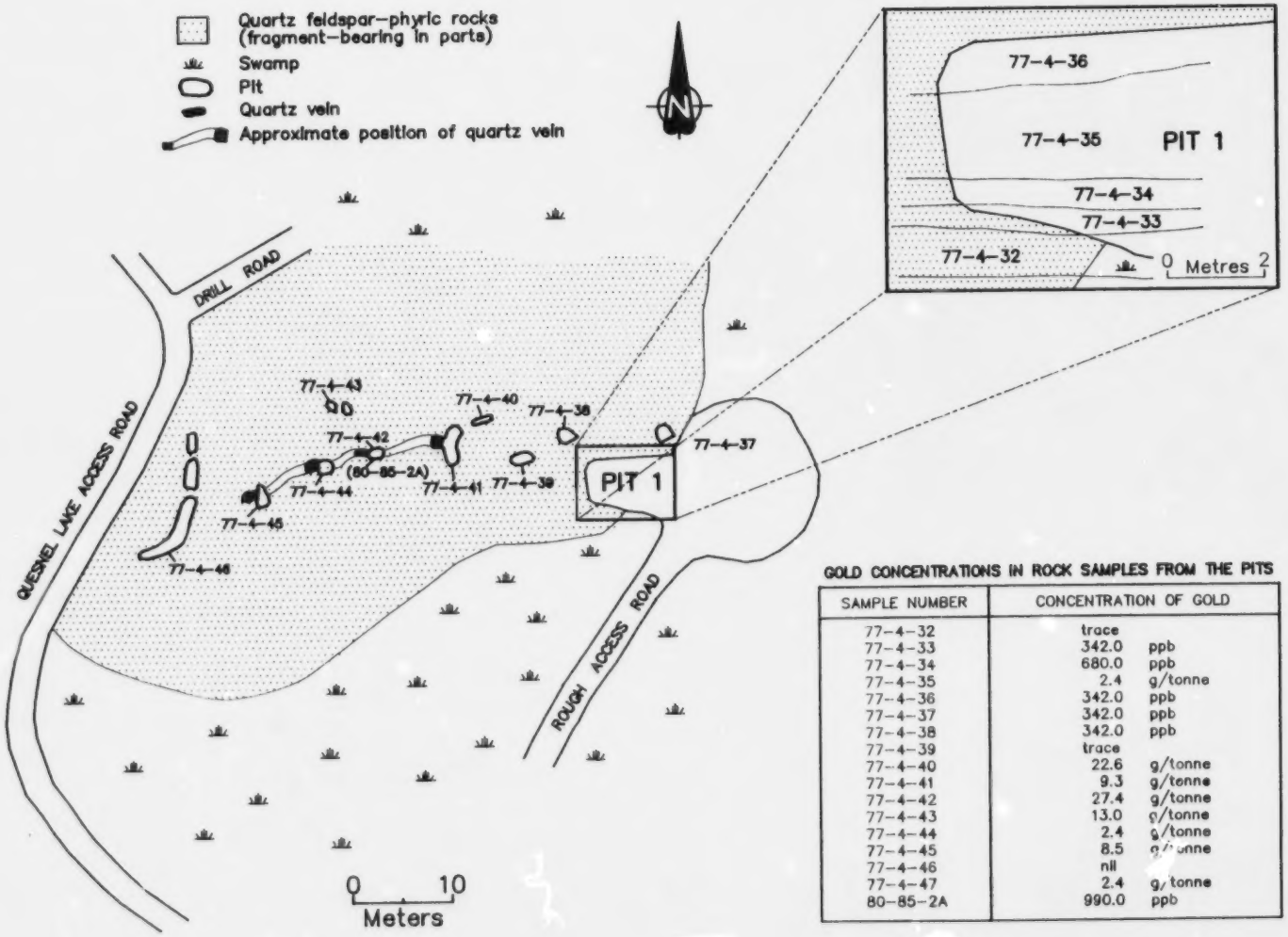



*Figure 16-1: Geological setting of occurrence 16 (Sosueme).*




**GOLD CONCENTRATIONS IN ROCK SAMPLES FROM THE PITS**

| SAMPLE NUMBER | CONCENTRATION OF GOLD | |
|---|---|---|
| 77–4–32 | trace | |
| 77–4–33 | 342.0 | ppb |
| 77–4–34 | 680.0 | ppb |
| 77–4–35 | 2.4 | g/tonne |
| 77–4–36 | 342.0 | ppb |
| 77–4–37 | 342.0 | ppb |
| 77–4–38 | 342.0 | ppb |
| 77–4–39 | trace | |
| 77–4–40 | 22.6 | g/tonne |
| 77–4–41 | 9.3 | g/tonne |
| 77–4–42 | 27.4 | g/tonne |
| 77–4–43 | 13.0 | g/tonne |
| 77–4–44 | 2.4 | g/tonne |
| 77–4–45 | 8.5 | g/tonne |
| 77–4–46 | nil | |
| 77–4–47 | 2.4 | g/tonne |
| 80–85–2A | 990.0 | ppb |

*Figure 16-2: Detailed geology, sample locations and gold concentrations at occurrence 16 (Sosueme).*

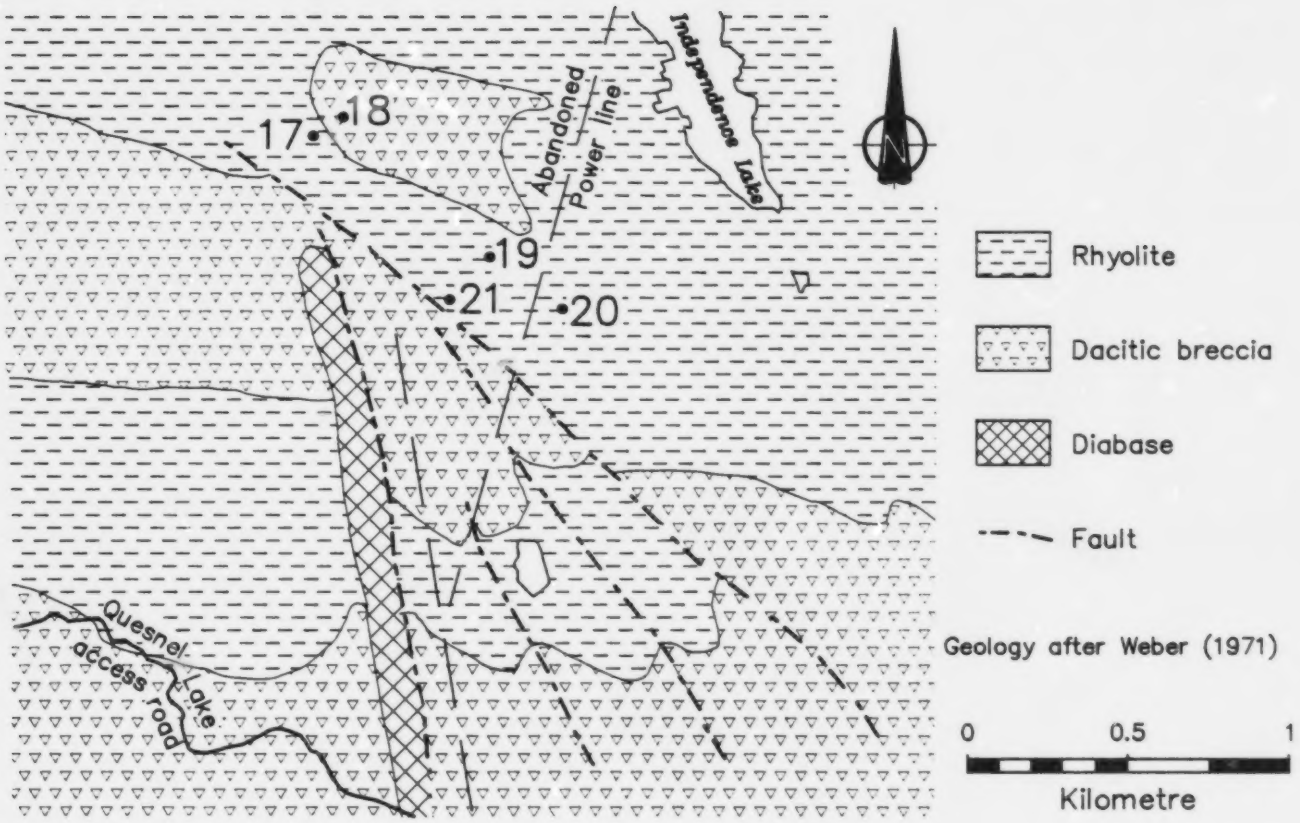



*Figure 17-1: Geological setting of occurrences 17, 18, 19, 20 and 21.*

**LOCATION:** 17

NAME: GENEVA

UTM: 5652860N 315700E
ACCESS: Via boat on Rice Lake and traverse.

EXPLORATION SUMMARY:

This occurrence consisted of three separate zones of mineralization: a) an approximately 6 to 9 m thick east striking quartz-feldspar porphyry dyke containing small quartz lenses and minor pyrite; b) a northwest striking shear zone at least 400 m long containing virtually no quartz, and c) a short (100 m) west striking shear zone along the south wall of a porphyritic andesite dyke containing up to 60 cm thick and 61 m long quartz lenses (Stockwell, 1938 p. 72). There appear to be no additional records available on these occurrences.

GEOLOGICAL SETTING:

The only mineralized feature recognized in this area in 1986 was a west striking shear zone transecting a feldspar- phyric mafic tuff containing an approximately 60 cm thick, milky white quartz vein.

MINERALIZATION:

Traces of pyrite occur in the vein quartz.

AREA: Approximately 1.1 km west of Independence Lake (Fig. 17-1)
AIRPHOTO: A24713-50

GEOCHEMICAL DATA

Three grab samples from the quartz veins and the host rocks were analyzed but none contained gold.

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; in Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

**LOCATION:** 18

NAME: CLIFF

UTM: 5652920N 313820E

ACCESS: Via boat on Rice Lake and traverse south.

AREA: Approximately 1 km west of Independence Lake (Fig. 17-1).

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

No exploration records are known for this occurrence. A trench was located at this site.

GEOLOGICAL SETTING:

The area is underlain by a brecciated felsic fragmental rock.

MINERALIZATION:

Barren discontinuous quartz lenses, 5-10 cm thick and up to 1 m long are scattered throughout the breccia zone. Pyrite is present in trace quantities on shear planes within the quartz and the surrounding hostrock.

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Vein type deposit. Quartz lenses and disseminated sulphide in a fault zone.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

**LOCATION:** 19

NAME: RICE LAKE GOLD MINES #2 AND #4 ZONES

UTM: 5652460N 314240E

ACCESS: Traverse approximately 1.9 km north and northeast along an abandoned powerline from the Quesnel Lake access road. This occurrence is located approximately 80 m east of this point.

AREA: Approximately 0.8 km southwest of Independence Lake (Fig. 17-1).

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

Stockwell (1938, p. 64) mentioned that eight prospect pits were sunk on the property. A total of 27 pits and trenches were identified on this occurrence in 1985 (Fig. 19-1).

GEOLOGICAL SETTING:

The area is underlain by sheared felsic fragmental and tuffaceous volcanic rocks transected by a northwest striking (325°) fracture zone.

MINERALIZATION:

Numerous discontinuous and irregularly shaped quartz and carbonatized quartz lenses occur in the fracture zone. Vein quartz is generally milky white and of sugary texture. Pyrite occurs as thin coatings on shear planes and as disseminations in both vein quartz and host rock.

GEOCHEMICAL DATA:

A grab sample (77-4-128) of sheared felsic rock and minor vein quartz contained 3 g/tonne gold.

CLASSIFICATION:

Vein type deposit with multiple quartz lenses.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

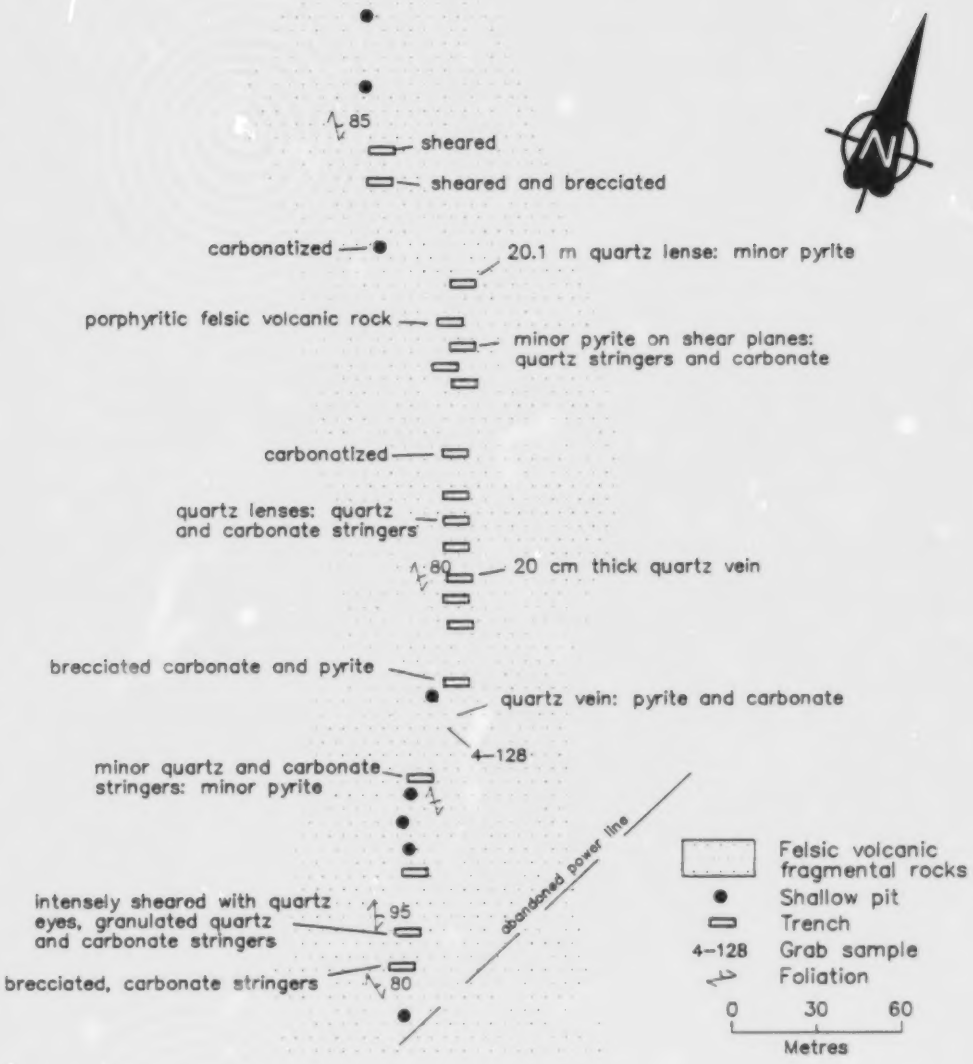



*Figure 19-1: Trench, pit and sample locations at occurrence 19 (Rice Lake Gold Mines #2 and #4 zones).*

**LOCATION:** 20

NAME: RICE LAKE GOLD MINES #3 ZONE

UTM: 5652860N 314400E

ACCESS: Walk approximately 1.9 km north and northeast along the abandoned powerline that intersects the Quesnel Lake access road. This occurrence is located approximately 60 m east of this point.

AREA: Approximately 0.6 km south of Independence Lake (Fig. 17-1).

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

Stockwell (1938, p. 64) indicated that this occurrence had been explored with three pits and one diamond drill hole. No other records dealing with this occurrence are known. Five pits were found in the area in 1984.

GEOLOGICAL SETTING:

The area is underlain by chloritized, carbonatized and sericitized felsic rocks and is transected by several subparallel northwest trending (330°) shear zones (Fig. 20-1).

MINERALIZATION:

Thin (10-40 cm) quartz and quartz carbonate veins are exposed in some of the pits. Mineralization consists of minor (1-2%) disseminated pyrite in milky white to slightly pink sugary textured vein quartz.

GEOCHEMICAL DATA:

A grab sample (77-4-107) from one of the pits that contains vein quartz, quartz carbonate and disseminated pyrite contained 820 ppb gold.

CLASSIFICATION:

Vein type deposit with multiple quartz lenses.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

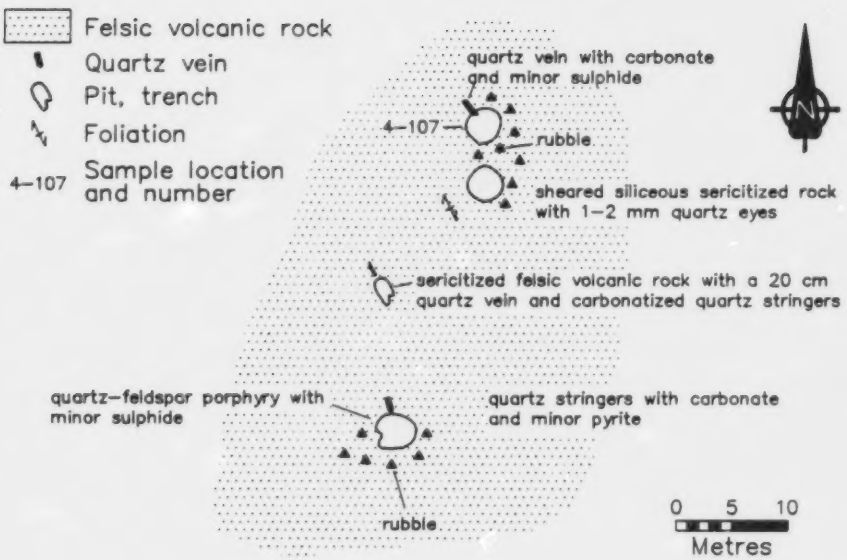



*Figure 20-1: Geology and sample locations at occurrence 20 (Rice Lake Gold Mines #3 zone).*

**LOCATION: 21**

**NAME: RICE LAKE GOLD MINES #5 ZONE**

**UTM: 5652380N 314100E**

**ACCESS: Approximately 1.9 km north along an abandoned powerline intersecting the Quesnel Lake access road. This occurrence is located approximately 180 m east of this point.**

**AREA: Approximately 0.95 km southwest of Independence Lake (Fig. 17-1).**

**AIRPHOTO: A24713-50**

EXPLORATION SUMMARY:

A brief description of this zone was published by Stockwell (1938). Two pits and evidence of blasting on a 100 m long escarpment were found in 1984.

GEOLOGICAL SETTING:

An approximately 2 m thick, northwest striking, near vertical dipping shear zone transects dacitic to rhyolitic feldspar-phyric volcanic rocks. A mafic dyke contains small discontinuous quartz veins. The shear zone and adjacent rocks are characterized by intense chloritization, sericitization and carbonatization.

MINERALIZATION:

Traces of pyrite occur on foliation planes.

GEOCHEMICAL DATA:

A grab sample (77-4-111) from rubble adjacent to the southern pit contained intergrown quartz and carbonate layers and contained 15 ppb gold .

CLASSIFICATION:

Vein type deposit. Quartz and carbonate veins associated with a shear zone.

REFERENCES:


Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

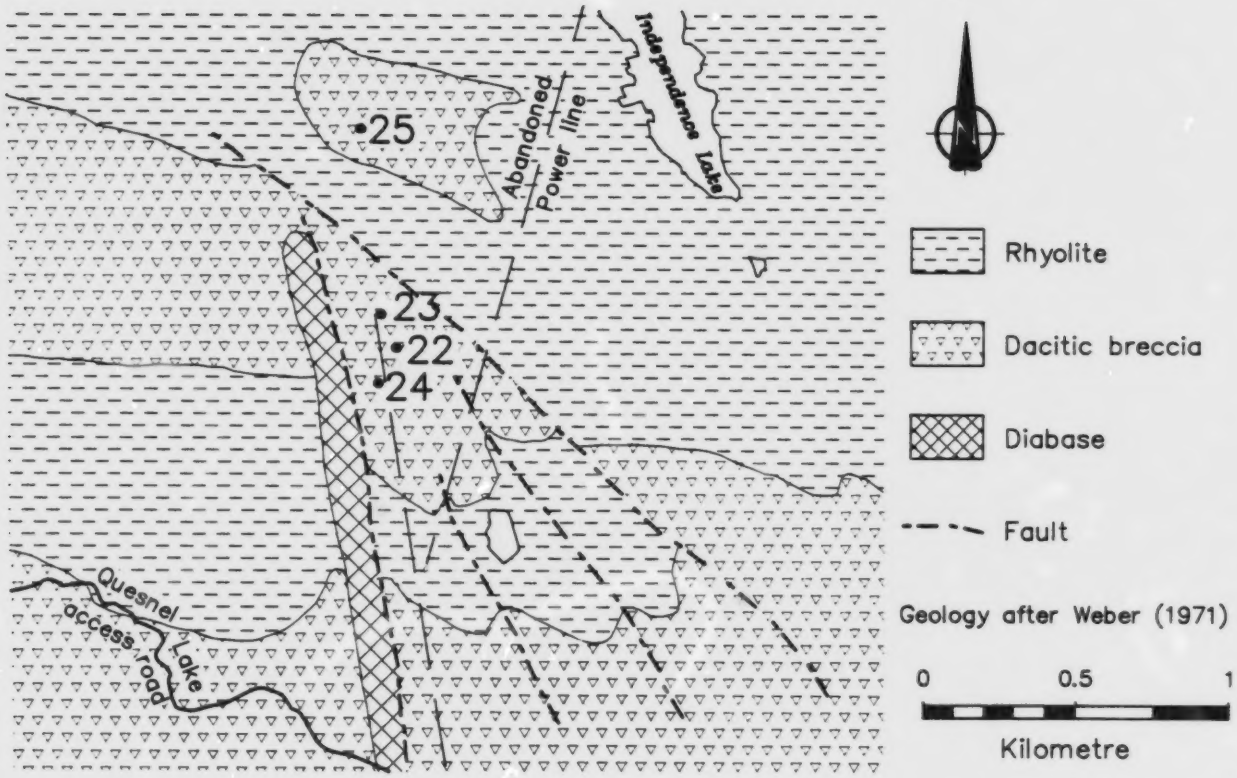



*Figure 22-1: Geological setting of occurrences 22, 23, 24 and 25.*

**LOCATION: 22**

NAME: RICE LAKE GOLD MINES #6 Zone.

UTM: 5652180N 314020E

ACCESS: Approximately 1.5 km north from the intersection of the abandoned powerline with the Quesnel Lake access road. This occurrence is located approximately 20 m east of the powerline at the edge of a swampy area.

AREA: Approximately 1 km southwest of Independence Lake (Fig. 22-1).

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

One trench and several shallow pits expose discontinuous quartz lenses hosted by sericitized and chloritized schists. Stockwell (1938) indicated that a 300 m long shear zone had been investigated in prospect pits.

GEOLOGICAL SETTING:

This occurrence is located in a north-striking, 2 to 13 m thick shear zone in rhyolitic to rhyodacitic fragmental feldspar-phyric volcanic rocks. The shear zone hosts thin (up to 10 cm) discontinuous quartz veins and minor ankeritic lenses and stringers.

MINERALIZATION:

Sulphide mineralization consist of minor (1-2%) pyrite and traces of chalcopyrite in vein quartz. Malachite stains occur in some rock specimens.

GEOCHEMICAL DATA:

A grab sample of vein quartz with minor carbonate and approximately 1% pyrite contained 3 ppb gold.

CLASSIFICATION:

Vein type deposit.

REFERENCES

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

**LOCATION:** 23

NAME: RICE LAKE GOLD MINES #7 ZONE

UTM: 5652080N 314000E

ACCESS: Approximately 1.7 km north along the abandoned powerline that intersects the Quesnel Lake access road. This occurrence is located a few metres east of the powerline.

AREA: Approximately 1 km southwest of Independence Lake (Fig. 22-1).

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

Stockwell (1938) described this occurrence as a shear zone in porphyritic andesite. No other records dealing with this occurrence are known. Three shallow pits were found in 1984.

The area is underlain by massive and fragmental rhyolite to rhyodacitic volcanic rocks. The occurrence consists of an approximately 30 cm thick milky white quartz vein in an approximately 50-60 cm thick northwesterly striking shear zone. Quartz is associated with abundant thin and discontinuous carbonate veins.

MINERALIZATION:

The quartz lenses and the immediately adjoining host rock contain traces of pyrite.

GEOCHEMICAL DATA:

A grab sample (77-4-117) of vein quartz that was virtually barren of sulphide minerals and carbonate stringers contained 12 ppb Au.

CLASSIFICATION:

Vein type deposit with multiple quartz lenses.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

**LOCATION: 24**

NAME: RICE LAKE GOLD MINES #8 ZONE

UTM: 5652075N 313960E

ACCESS: Approximately 1.5 km north from the Quesnel Lake access road along the abandoned powerline. The occurrence is located approximately 100 m west of this point on the powerline.

AREA: Approximately 1.2 km southwest of Independence Lake (Fig. 22-1).

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

This occurrence has been described by Stockwell (1938) as a shear zone hosting quartz lenses and stringers that was investigated in three prospect pits. One pit was found in 1984.

GEOLOGICAL SETTING:

The area is underlain by heterolithic felsic to intermediate volcanic rocks containing subrounded felsic to mafic pebbles and cobbles. Alteration and shearing along faults are localized in 1-2 m thick sericitized, chloritized and silicified zones. These shear zones host 2-3 cm thick, discontinuous quartz ribbons and lenses.

MINERALIZATION:

No sulphides were observed at this occurrence.

GEOCHEMICAL DATA:

A grab sample (77-4-108) taken from the northwestern side of the trench containing quartz and altered host rock contained 4 ppb gold.

CLASSIFICATION:

Vein type deposit.

REFERENCES

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

**LOCATION:** 25

NAME: RICE LAKE GOLD MINES #9 ZONE

UTM: 5652900N 313920E

ACCESS: Approximately 600 m south of southeastern Rice Lake.

AREA: Approximately 0.7 km west of Independence Lake (Fig. 22-1).

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

Stockwell (1938, p. 65) described this occurrence as an approximately 0.5 km long poorly exposed shear zone. Six shallow pits were found along the shear zone in 1984.

GEOLOGICAL SETTING:

The area is underlain by a heterolithic felsic to intermediate volcanic fragmental rock containing pebble to cobble sized, subrounded felsic to mafic fragments. A poorly exposed 0.5 - 1 m thick northwest striking foliated zone hosts discontinuous quartz lenses.

MINERALIZATION:

The mineralization consists of traces of pyrite in quartz.

GEOCHEMICAL DATA:

A grab sample (77-4-128) composed of quartz, minor carbonate and chloritic schist contained 11 ppb gold.

CLASSIFICATION:

Vein type deposit with multiple quartz lenses.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

**LOCATION:** 26

NAME: RICE LAKE GOLD MINES #10 ZONE

UTM: 5652160N 315040E

ACCESS: Approximately 1.5 km north and northeast along the abandoned powerline starting at its intersection with the Quesnel Lake access road. This occurrence is located approximately 700 m east of this point.

AREA: Approximately 0.5 km south of Independence Lake and 1 km west of Gold Lake (Fig. 26-1).

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

Stockwell (1938, p. 65) described this occurrence as an approximately 200 m long shear zone of variable width containing quartz stringers and lenses. Twelve exploration pits were found on this shear in 1984.

GEOLOGICAL SETTING:

A northwest striking 10-50 cm thick shear zone transecting massive to fragmental rhyolitic rocks contains abundant milky white to translucent discontinuous quartz stringers.

MINERALIZATION:

The quartz contains 0.5-1% disseminated pyrite. Pyrite concentrations exceeding 1% were found in the host rock adjacent to some of the quartz veins. The rocks of the shear zone are characterized by abundant iron oxide stain.

GEOCHEMICAL DATA:

a) Grab sample (77-4-105) composed of felsic rocks with minor pyrite and carbonate contained 136 ppb gold.

b) Grab sample (77-4-106) of a 25 cm thick quartz vein with minor pyrite and carbonate contained 350 ppb gold.

CLASSIFICATION:

Vein type deposit with multiple lenses.

REFERENCES:


Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

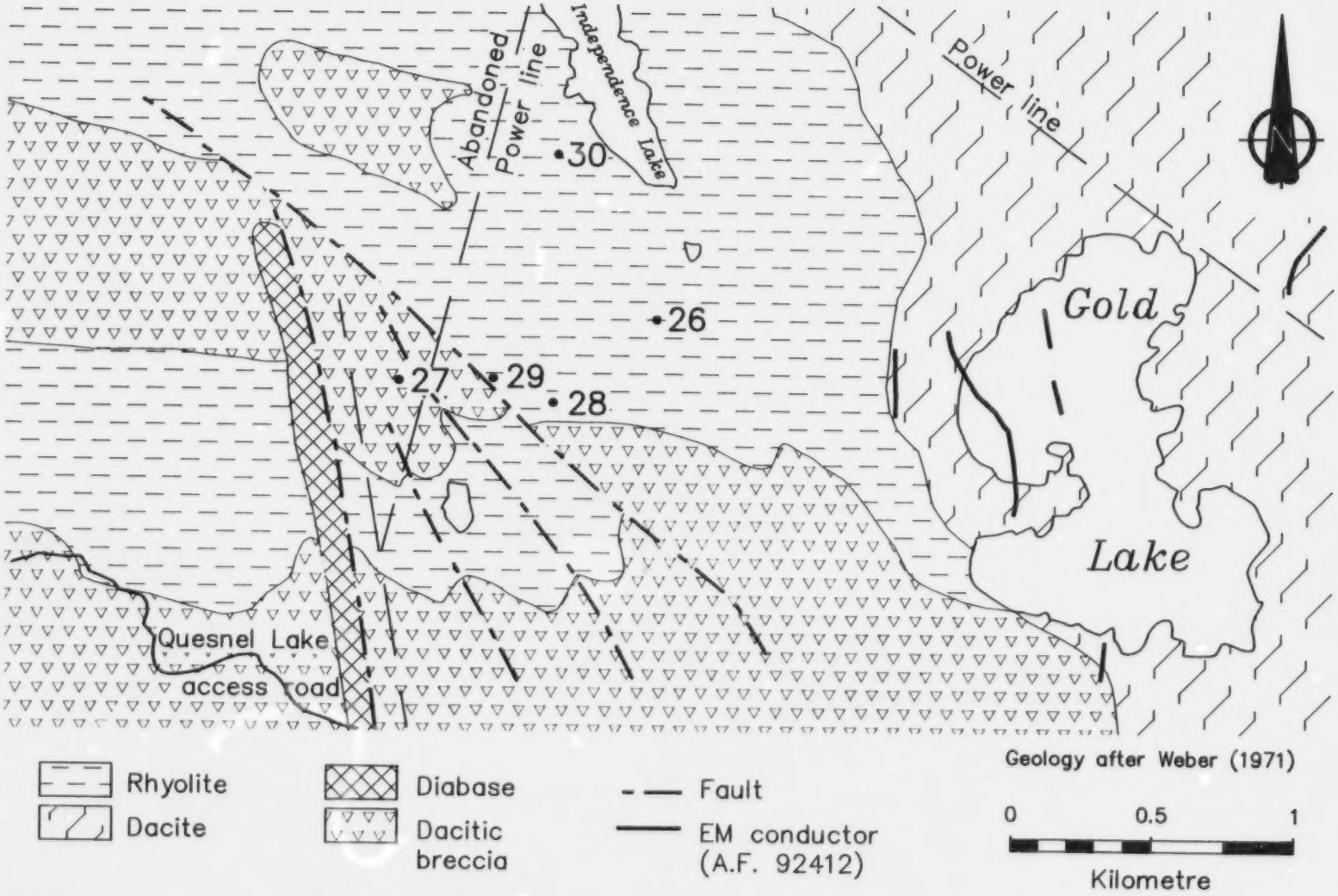



*Figure 26-1: Geological setting of occurrences 26, 27, 28, 29 and 30.*

**LOCATION:** 27

NAME:

UTM: 5652040N 314120E

ACCESS: Approximately 1.4 km north along the abandoned powerline from the Quesnel Lake access road. This occurrence is located approximately 100 m west of this point on the powerline.

AREA: Approximately 1.1 km southwest of Independence Lake (Fig. 26-1).

AIRPHOTO: A24713-50

EXPLORATION SUMMARY:

No published records dealing with this occurrence are known. One pit was found in 1984.

GEOLOGICAL SETTING:

The area is underlain by quartz-feldspar porphyry.

MINERALIZATION:

Up to 1% disseminated pyrite occurs within rust stained fault gouge that is associated with a north striking fault.

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Disseminated mineralization - not classified.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

**LOCATION:** 28

NAME: RANGER GOLD MINES #2 ZONE

UTM: 5651880N 314640E

ACCESS: Approximately 1.3 km north and northeast along the abandoned powerline from the Quesnel Lake access road. Occurrence 28 is approximately 0.4 km east of this point in a prominent open area.

AREA: Approximately 0.8 km south of Independence Lake and 1.4 km west of Gold Lake (Fig. 26-1).

AIRPHOTO: A24713-50 or A24711-98

EXPLORATION SUMMARY:

Stockwell (1938, p. 69) indicated that this occurrence consists of quartz lenses in a southeast striking shear zone. Two exploration pits were found in this area in 1984.

GEOLOGICAL SETTING:

The area is underlain by a rhyodacitic fragmental volcanic rock transected by a southeast striking fault. The rocks in the vicinity of the fault are characterized by intense foliation, including chloritization, sericitization and silicification. Discontinuous 5-50 cm thick milky white quartz lenses occur randomly distributed throughout the disrupted rock.

MINERALIZATION:

Traces of disseminated fine grained pyrite occur in quartz lenses.

GEOCHEMICAL DATA:

A grab sample (77-4-104) contained 65 ppb gold.

CLASSIFICATION:

Vein type deposit. Quartz veins and lenses in a fault zone.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; in Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

**LOCATION:** 29

NAME: RANGER GOLD MINES #3 ZONE

UTM: 5652000N 314450E

ACCESS: Approximately 1.4 km north and northeast along the abandoned powerline from its intersection with the Quesnel Lake access road; at this point proceed for approximately 200 m east.

AREA: Approximately 1.5 km west of Gold Lake and 0.8 km south of Independence Lake (Fig. 26-1).

AIRPHOTO: A24713-50 or A24711-98

EXPLORATION SUMMARY:

Stockwell (1938, p. 69) indicated that this mineralization exposed in seven pits. Ten shallow pits were found on this site in 1984.

GEOLOGICAL SETTING:

Discontinuous 1-5 cm thick quartz veins occur in an up to 3 m thick shear zone that transects feldspar porphyry and feldspathic dacitic to rhyolitic rocks. The shear strikes 320° and can be traced for approximately 100 m along strike. Intensive silicification, chloritization and minor carbonatization characterize the sheared rock.

MINERALIZATION:

Rocks in the shear zone contain traces of disseminated pyrite. The country rock is barren of sulphides.

GEOCHEMICAL DATA:

A grab sample (77-4-103) of sheared felsic rocks (Fig. 29-1) contained 5.8 g/tonne gold.

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; in Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

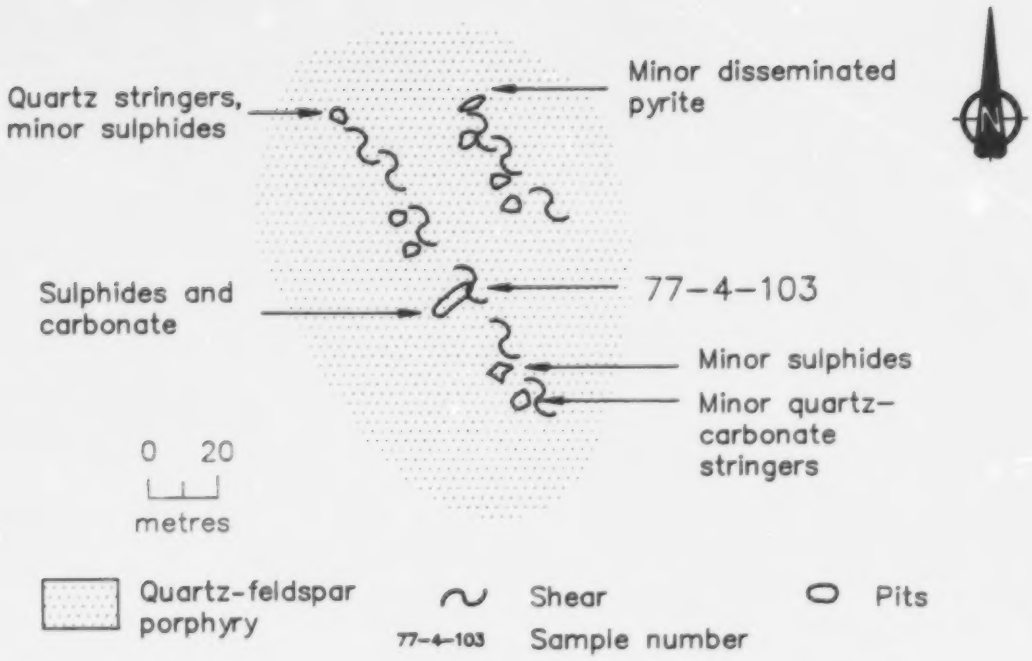



*Figure 29-1: Sample and pit locations at occurrence 29 (Ranger Gold Mines #3 zone).*

**LOCATION:** 30

**NAME:** RANGER GOLD MINES #6 ZONE

**UTM:** 5652720N 314750E

**ACCESS:** Walk along an easily recognizable trail leading from the southeastern shore of Rice Lake to Independence Lake and proceed along the eastern shore to the occurrence..

**AREA:** Approximately 150 m west of the southern end of Independence Lake (Fig. 26-1).

**AIRPHOTO:** A24713-50 or A24711-98

EXPLORATION SUMMARY:

Stockwell (1938, p. 69) indicated that this shear zone was exposed in two pits. These pits were found in 1986.

GEOLOGICAL SETTING:

The area is underlain by a dark grey to green homogeneous intermediate to mafic volcanic rock that has been altered in the vicinity of a fault striking 150°. The faulted rock is bleached, silicified and carbonatized and hosts up to several centimetre thick discontinuous quartz and carbonate veins.

MINERALIZATION:

Vein quartz and the adjacent rocks are mineralized with randomly distributed disseminated (up to 2%) pyrite and iron oxide stains.

GEOCHEMICAL DATA:

A grab sample (77-4-100) of rubble from the northern pit, containing vein quartz, carbonate and 1-2% disseminated pyrite contained 40 ppb gold.

CLASSIFICATION:

Vein type deposit with multiple quartz lenses.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

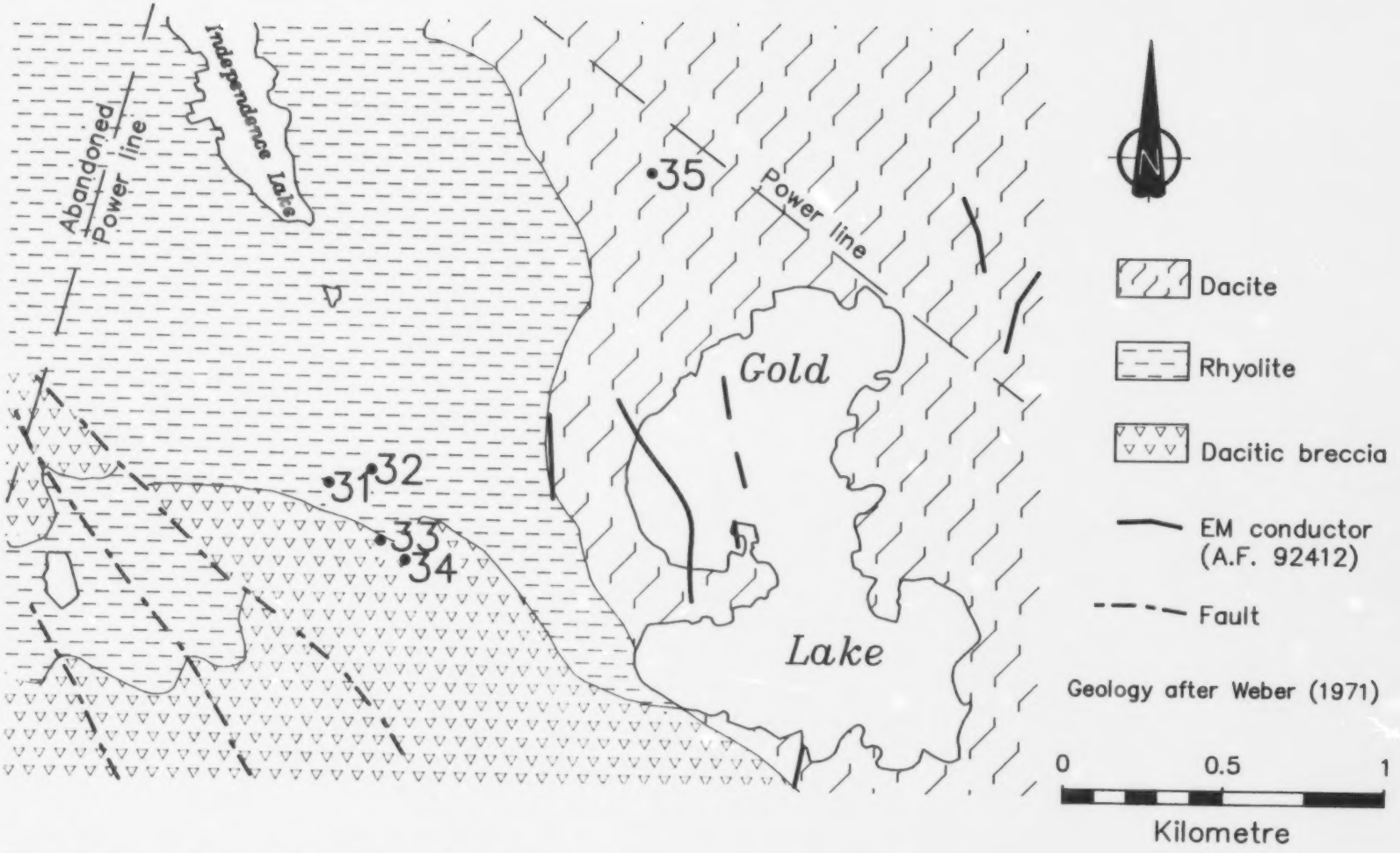



*Figure 31-1: Geological setting of occurrences 31, 32, 33, 34 and 35.*

**LOCATION:** 31

**NAME:** RANGER GOLD MINES #7 ZONE

**UTM:** 5651800N 315120E

**ACCESS:** There are two routes to this occurrence:

(1) Walk approximately 1.2 km north and northeast along the abandoned powerline from the Quesnel Lake access road. This occurrence is located approximately 920 m east of this point.

(2) Drive along the winter road network starting at the Gold Pan-Gold Seal complex. An ATV capable of negotiating swamps is an advantage on this route.

**AREA:** Approximately 0.8 km south of Independence Lake and 0.9 km west of Gold Lake (Fig. 31-1).

**AIRPHOTO:** A24713-50

EXPLORATION SUMMARY:

Stockwell (1938, p. 70) indicated that this occurrence had been exposed in four pits. Five exploration pits were found in the area of this occurrence in 1984.

GEOLOGICAL SETTING:

The area is underlain by a dark grey felsic fragmental volcanic rock transected by a 340° striking fault zone. The fault zone contains discontinuous quartz veins, lenses and stringers and minor carbonate pockets. Vein quartz is milky white and of sugary to glassy appearance.

MINERALIZATION:

The vein quartz and adjacent rocks contain less than 1% disseminated pyrite and exhibit sporadic rust stains.

GEOCHEMICAL DATA:

A grab sample of vein quartz with 1-2% pyrite and minor carbonate from the rubble of pit #4 (Fig. 31-2) assayed 6.64 g/tonne gold.

CLASSIFICATION:

Vein type deposit with multiple lenses.

REFERENCES:


Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

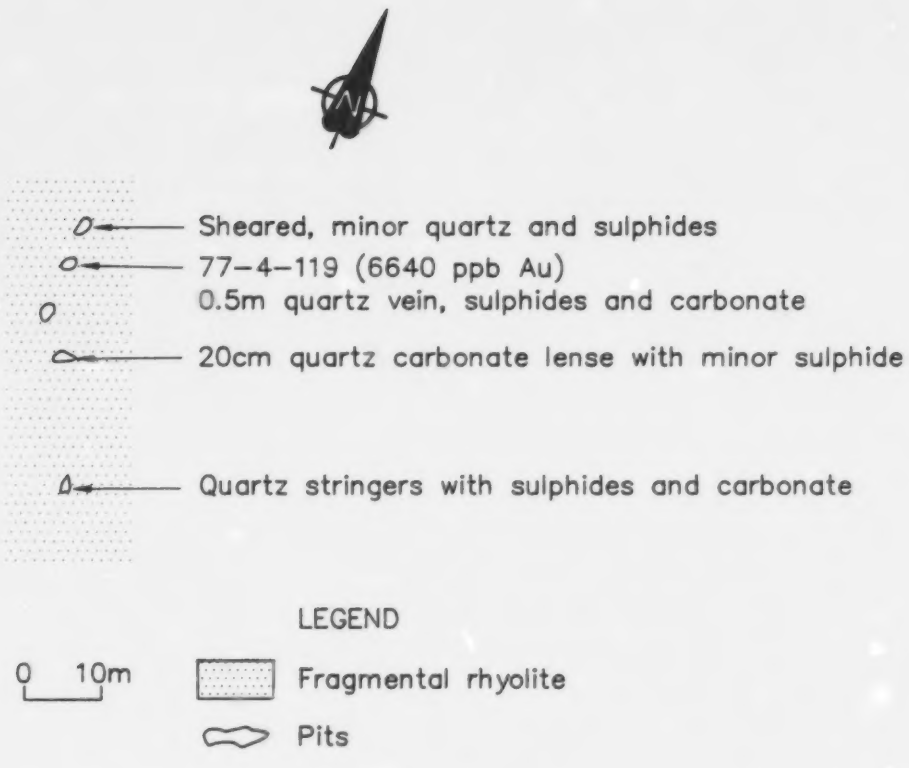



*Figure 31-2: Trench locations at occurrence 31 (Ranger Gold Mines #7 zone).*

**LOCATION:** 32

NAME: RANGER GOLD MINES #8 ZONE

UTM: 5651880N 315280E

ACCESS: Walk approximately 1.2 km north and northeast along the abandoned powerline from the Quesnel Lake access road. This occurrence is approximately 1 km east of this point.

AREA: Approximately 0.8 km south of Independence Lake and 0.7 km west of Gold Lake (Fig. 31-1).

AIRPHOTO: A24711-98

EXPLORATION SUMMARY:

Stockwell (1938, p. 70) indicated that this occurrence is exposed in nine pits and numerous outcrops. Eight pits and trenches were found in the area in 1984.

GEOLOGICAL SETTING:

This occurrence is underlain by a dark grey felsic fragmental rock with feldspar-phyric interlayers. These rocks are transected by a north striking fault characterized by a several metre thick zone of foliated rock. Mafic fragmental rocks (brecciated amphibolite?) are exposed in one of the pits (Fig. 32-1).

MINERALIZATION:

Concentrations of up to 2% disseminated pyrite occur throughout the foliated rock. Larger concentrations (up to 10%) of pyrite occur as discontinuous ribbons and pockets in the fault breccia.

GEOCHEMICAL DATA:

A grab sample (77-4-120) of rust stained felsic fragmental rocks including minor pyrite and mafic fragments contained 1.5 g/tonne gold (Schmidtke 1984).

CLASSIFICATION:

Vein type deposit. Veins and disseminations of sulphides in a fault zone.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; in Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

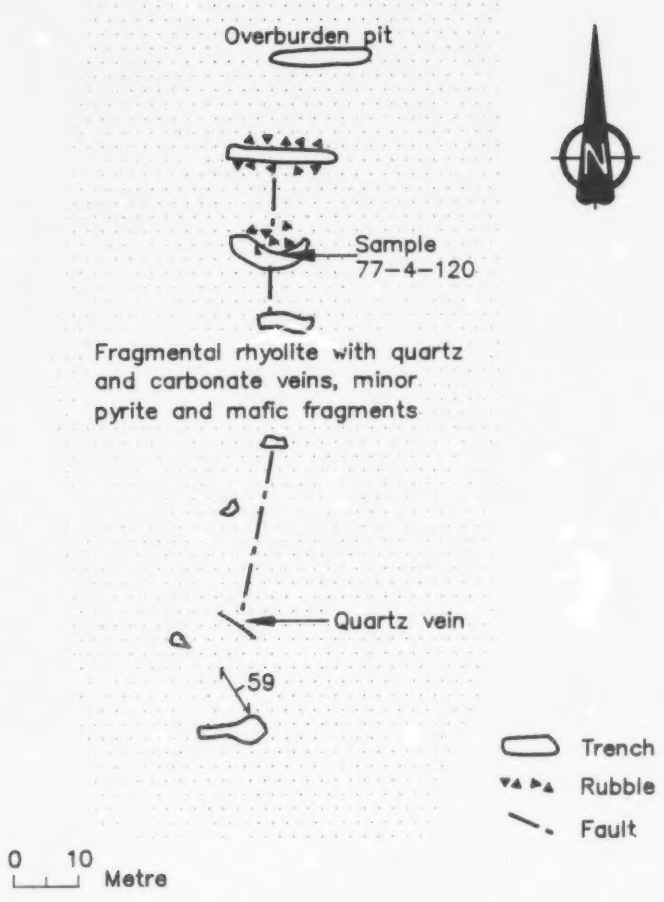



*Figure 32-1: Trench locations at occurrence 32 (Ranger Gold Mines #8 zone).*

**LOCATION:** 33

NAME:

UTM: 5651600N 315240E

ACCESS: There are two routes to this occurrence:

1) Via float plane to Gold Lake and traverse west through the bush.

2) Via the winter road network starting at the Gold Pan-Gold Seal mine complex; an ATV capable of negotiating swampy areas is advantageous on this route.

AREA: Approximately 1.1 km southeast of Independence Lake and 0.8 km west of Gold Lake (Fig. 31-1).

AIRPHOTO: A24711-98

EXPLORATION SUMMARY:

This occurrence was found during a traverse in 1986.

GEOLOGICAL SETTING:

The area is underlain by a feldspar-phyric massive to layered crystal tuff that has been bleached, silicified and carbonatized in the vicinity of an at least 50 m long and 1-10 m thick northerly striking foliated zone.

MINERALIZATION:

The altered zone is characterized by the occurrence of thin (2-5 cm) discontinuous quartz veins and abundant ankerite.

Pyrite is present in concentrations of up to 2% throughout the quartz and carbonate. Randomly distributed traces of pyrrhotite and chalcopyrite are also present.

GEOCHEMICAL DATA:

A grab sample (77-4-118), from the rubble of a trench containing quartz and ankerite contained 118 ppb Au.

CLASSIFICATION:

Vein type deposit with multiple quartz and carbonate lenses.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

**LOCATION:** 34

**NAME:** FOX

**UTM:** 5651540N 315320E

**ACCESS:** There are three routes to this occurrence:

(1) Walk approximately 1 km north along the abandoned powerline from its intersection with the Quesnel Lake access road. Occurrence 34 is reached by walking from that point approximately 1.4 km east.

2) Use the winter road network starting at the Gold Pan-Gold Seal mining complex.

3) Via float plane to Gold Lake and walk 0.7 km west.

**AREA:** Approximately 1.2 km southeast of Independence Lake and 0.7 km west of Gold Lake (Fig. 31-1).

**AIRPHOTO:** A24711-98

**EXPLORATION SUMMARY:**

Stockwell (1938) reported that this occurrence was explored by means of three pits. These pits were found in this area in 1984.

**GEOLOGICAL SETTING:**

The area is underlain by rhyodacitic to dacitic breccia transected by a north striking fault. The rocks in the vicinity of the fault are intensely foliated, bleached, carbonatized, silicified and host discontinuous quartz veins and lenses ranging from 25 cm to 1 m in thickness.

**MINERALIZATION:**

The quartz lenses contain approximately 1% disseminated pyrite and locally up to 20% pyrite.

**GEOCHEMICAL DATA:**

A grab sample (77-4-117) of 15-20% pyrite-bearing vein quartz from the central pit contained 14 g/tonne gold.

**CLASSIFICATION:**

Vein type deposit.

**REFERENCES:**

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

**LOCATION:** 35

NAME: RANGER GOLD MINES #12 ZONE

UTM: 5652370N 316180E

ACCESS: There are two access routes:

(1) Fly to Gold Lake and walk approximately 0.8 km northwest along the Bissett-Long Lake powerline,and

(2) Access the Bissett-Long Lake powerline via eastern Rice Lake and walk approximately 1.3 km southeast. The #12 zone is located in a prominent clearing in the bush.

AREA: Approximately 0.5 km northwest of Gold Lake near the Bissett-Long Lake powerline (Fig. 31-1).

AIRPHOTO: A24711-98

EXPLORATION SUMMARY:

Stockwell (1938) indicated that the occurrence had been explored by 13 pits. Only six of these pits were found in 1986.

GEOLOGICAL SETTING:

The area is underlain by dense siliceous, homogeneous feldspar-phyric rocks transected by a southeasterly (150°) striking fault. The trace of the fault is indicated by a 1-2 m thick foliated zone characterized by intense silicification that has resulted in an almost aphanitic rock of cherty appearance.

MINERALIZATION:

Pyrite occurs as sporadic, fine grained disseminations or as 1-2 mm thick discontinuous veins in the foliated rocks.

GEOCHEMICAL DATA:

a) A grab sample (77-4-91) of foliated and chloritized felsic rock containing disseminated pyrite assayed nil gold.

b) A grab sample (77-4-92) of vein quartz exposed in a pit assayed nil gold.

CLASSIFICATION:

Vein type deposit with pyrite in a silicified and foliated zone.

REFERENCES:

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Stockwell, C.H.

1938: Rice Lake-Gold Lake area, southeastern Manitoba; Geological Survey of Canada, Memoir 210, 79 p.

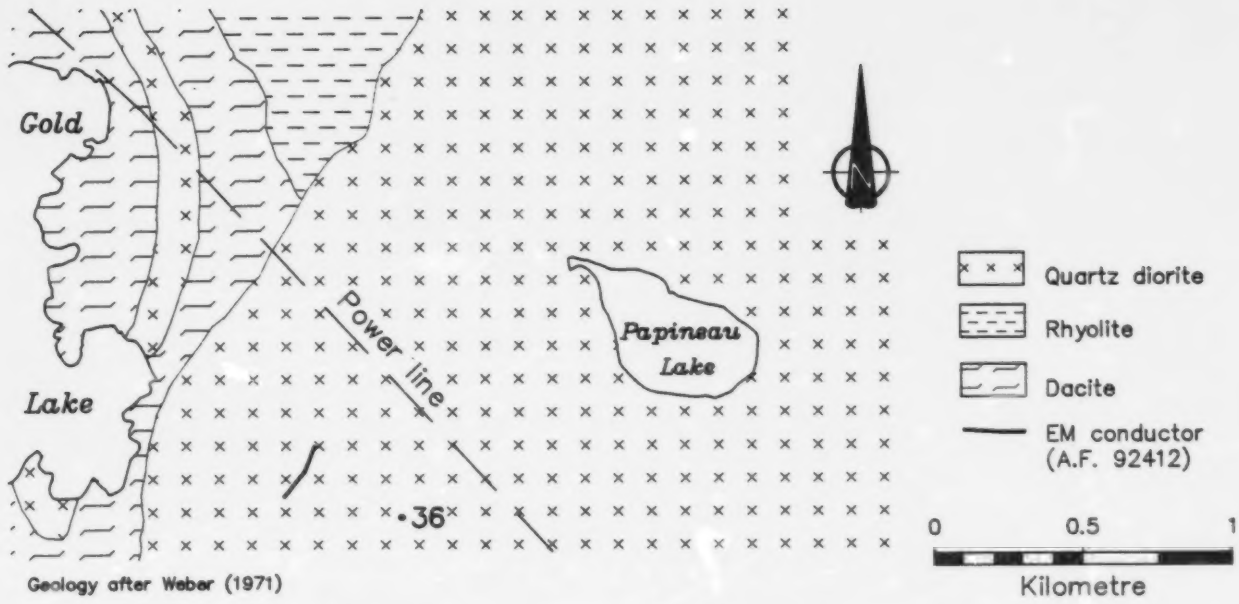



*Figure 36-1: Geological setting of occurrence 36 (September Morn) (52L/13NE).*

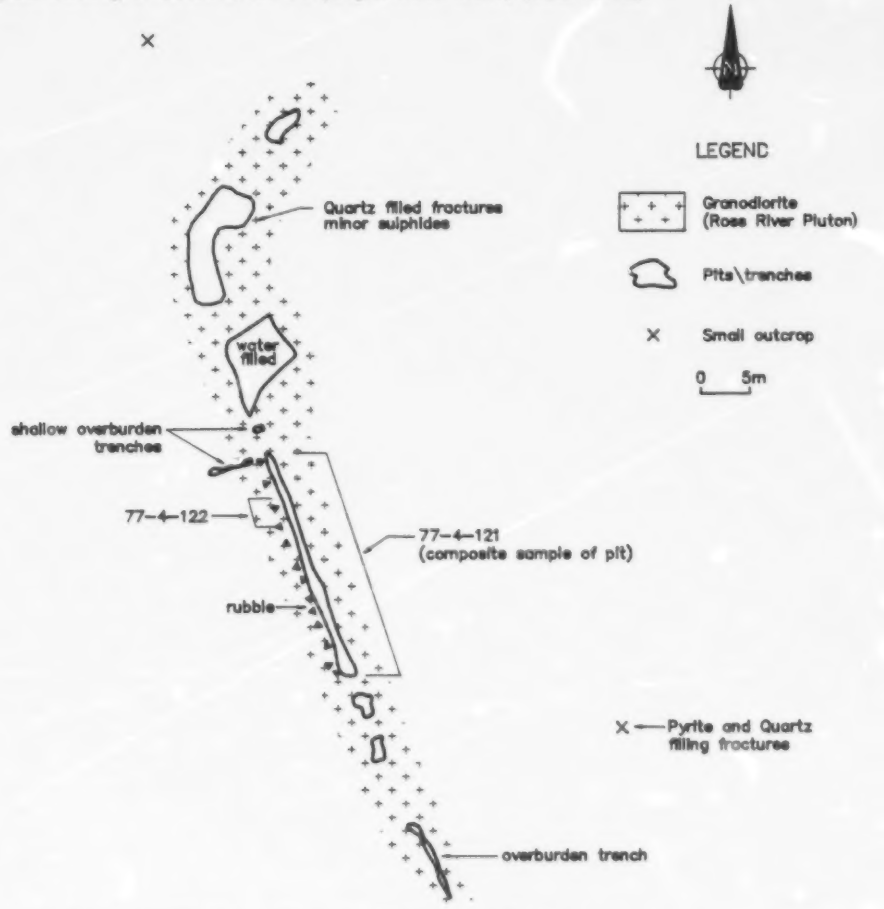



*Figure 36-2: Sample and pit locations at occurrence 36 (September Morn).*

**LOCATION:** 36

NAME: SEPTEMBER MORN

UTM: 5650820N 318045E

ACCESS: Fly to Gold Lake and walk approximately 0.9 km east.

AREA: Approximately 0.9 km east of Gold Lake (Fig. 36-1).

AIRPHOTO: A24711-55

EXPLORATION SUMMARY:

This occurrence was staked in 1915. Assay results reported by DeLury (1921) are from exploration pits opened in 1919. Renewed exploration efforts included diamond drilling in 1936 but the results are not known. In 1984 and 1985 soil geochemistry, VLF-EM surveys, geological mapping and a four hole drill program were undertaken. Geophysical (EM and MAG) and geological surveys were conducted in 1973 and 1978. This vein has been investigated for approximately 50 m along strike with several pits and trenches (Fig. 36-2).

GEOLOGICAL SETTING:

The area is underlain by homogeneous unaltered granodiorite of the Ross River Pluton. A sinuous fracture system striking northwest at its western end and northeast at its eastern end contains several quartz veins measuring up to 40 cm thickness.

MINERALIZATION:

The granodiorite contains very minor (0-1%) disseminated pyrite and randomly distributed clusters of up to 2 cm euhedral pyrite cubes. Malachite stains occur on a few of the rock samples. The quartz veins contain up to several cm thick, near solid pyrite concentrations.

GEOCHEMICAL DATA:

DeLury (1921) reported that three composite samples from this property contained 2.99 - 23.55 g/tonne; 4.98 g/tonne and 18.91-74.31 g/tonne Au.

Three grab samples were collected in 1984 (Schmidtke 1984). Sample locations are shown on Figure 36-2 and the analyses are presented below.

**Table 36-1: Gold analyses; mineral occurrence at location 36**

| Sample No. | Description | Concentrations of Gold ppb or g/tonne |
|---|---|---|
| 77-4-121 | Grab sample; rubble | 3.2 g/tonne |
| 77-4-122 | Grab sample; sulphide bearing quartz rubble | 12.7 g/tonne |
| 77-4-123 | Granodiorite, no pyrite | 287 ppb |

CLASSIFICATION:

Vein type deposit.

REFERENCES:


DeLury, J.S.

1921: Mineral prospects in southeastern Manitoba (Rice Lake, Maskwa River and Boundary districts); Manitoba Government Bulletin, Commissioner of Northern Manitoba, 55 p.

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; in Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

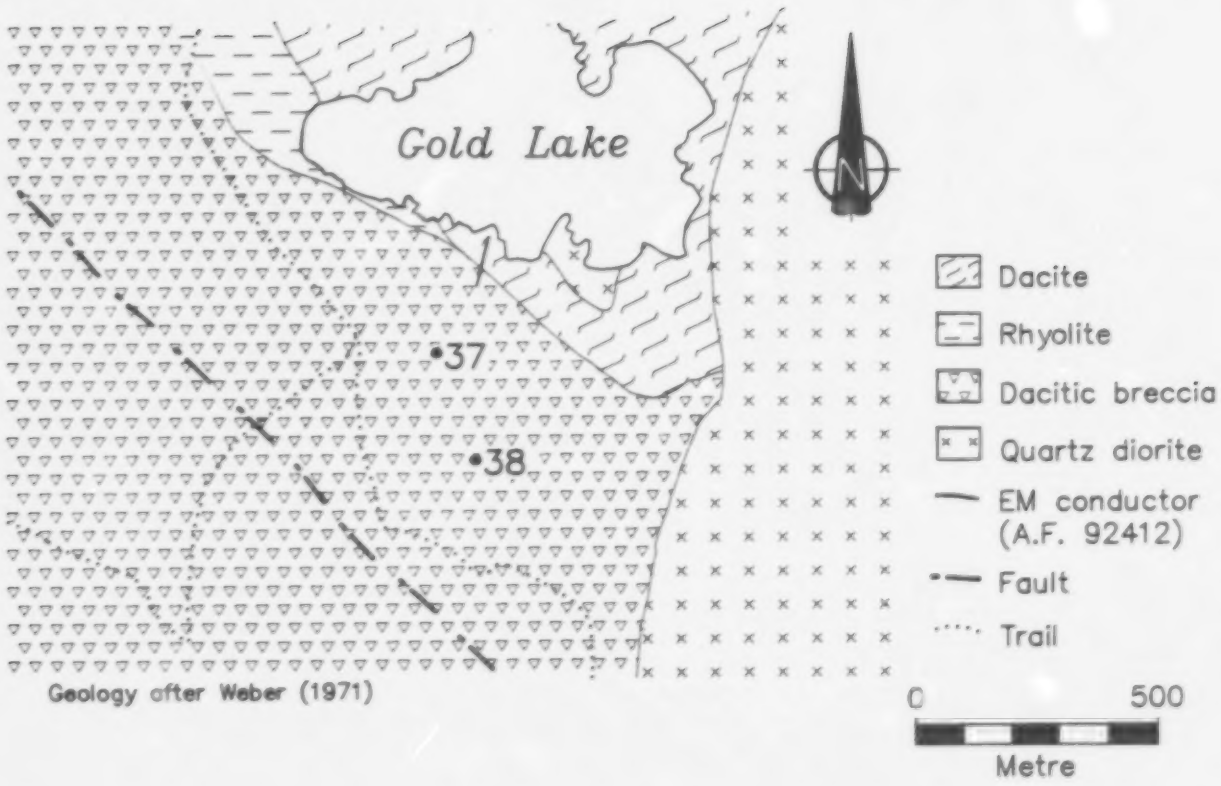



*Figure 37-1: Geological setting of occurrences 37 (Brooklyn #1000), and 38 (Brooklyn #2000).*

**LOCATION:** 37

**NAME:** BROOKLYN #1000

**UTM:** 5650630N 316400E

**ACCESS:** There are two access routes:

1) via float plane to Gold Lake, and
2) via the network of winter roads starting at the Gold Pan deposit (4).

**EXPLORATION SUMMARY:**

This occurrence is mentioned by DeLury (1921, p. 27) and by Davies (1953, p. 40). Both authors indicate that two shafts (Brooklyn #1000 and Brooklyn #2000) had been sunk by the Brooklyn Mining Company before 1920, but neither author provided location descriptions. One shaft and three pits were found in this area in 1984 (Fig. 37-2).

**GEOLOGICAL SETTING:**

The area is underlain by a heterolithic fragmental rock unit transected by a northerly (350°) striking shear zone.

**MINERALIZATION:**

Rocks within and in the vicinity of the fault are silicified and carbonated. The shear zone hosts 2-3 cm thick quartz and quartz-carbonate veins. Randomly distributed cm thick rock layers contain minor disseminated pyrite.

**GEOCHEMICAL DATA:**

A grab sample (51-6-B18) collected from rubble adjacent to the shaft contained 4.5 g/tonne gold.

**CLASSIFICATION:**

Vein type deposit with multiple quartz lenses.

**AREA:** Approximately 0.3 km south of Gold Lake (Fig. 37-1).

**AIRPHOTO:** A24711-99

**REFERENCES:**


Davies, J.F.

1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

DeLury, J.S.

1921: Mineral prospects in southeastern Manitoba (Rice Lake, Maskwa River and Boundary districts); Manitoba Government Bulletin, Commissioner of Northern Manitoba, 55 p.

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; in Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; in Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

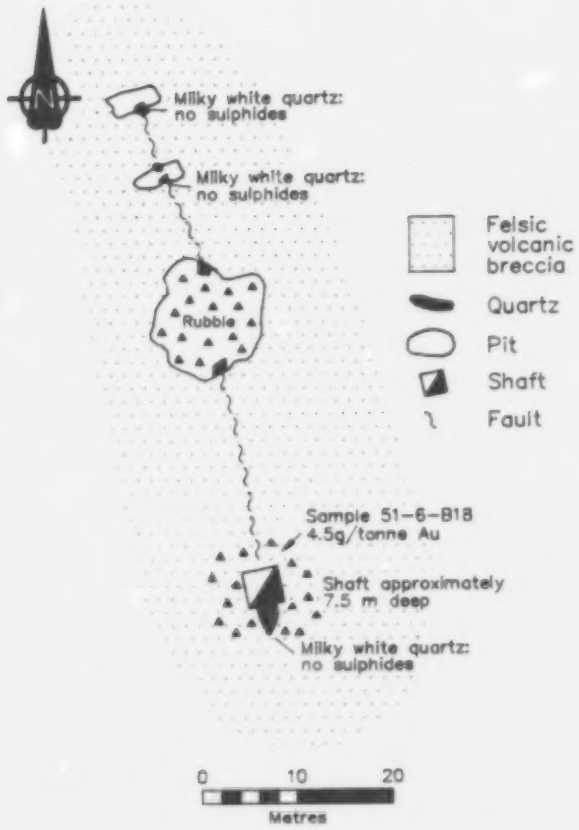



*Figure 37-2: Shaft, pits and sample locations at occurrence 37 (Brooklyn #1000).*

**LOCATION:** 38

NAME: BROOKLYN #2000

UTM: 5650350N 316480E

ACCESS: There are two access routes to the occurrence:

1) via float plane to Gold Lake, and

2) via the network of winter roads starting at the Gold Pan deposit; an ATV capable of crossing swampy areas is an asset on these roads.

AREA: Approximately 0.6 km south of Gold Lake (Fig. 37-1).

AIRPHOTO: A24711-99

EXPLORATION SUMMARY:

This occurrence is described briefly by DeLury (1921, p. 22) and Davies (1953, p. 40). Neither author provides detailed descriptions but both mention that two shafts (Brooklyn #1000 and Brooklyn #2000) had been sunk by the Brooklyn Mining Company prior to 1920. Three small, shallow pits were found in the area of this occurrence in 1984.

GEOLOGICAL SETTING:

A shear zone is hosted in heterolithic felsic fragmental rocks that contain rounded to subrounded rhyolitic pebbles and cobbles. The shear zone strikes approximately 350° and hosts discontinuous 2-3 cm thick milky white to beige sugary quartz and quartz-carbonate veins.

MINERALIZATION:

Up to 3% disseminated pyrite occurs in vein quartz. The host rocks in the vicinity of the vein quartz are mineralized with up to 1-2% disseminated pyrite.

GEOCHEMICAL DATA:

A grab sample (51-6-B19) of vein quartz with 1-2% pyrite and minor malachite stains contained 60 ppb gold.

CLASSIFICATION:

Vein type deposit with multiple quartz lenses.

REFERENCES:


Davies, J.F.

1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

DeLury, J.S.

1921: Mineral prospects in southeastern Manitoba (Rice Lake, Maskwa River and Boundary districts); Manitoba Government Bulletin, Commissioner of Northern Manitoba, 55 p.

Schmidtke, R.H.

1984: Mineral deposit documentation in the Bissett area; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1984, p. 92-99.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

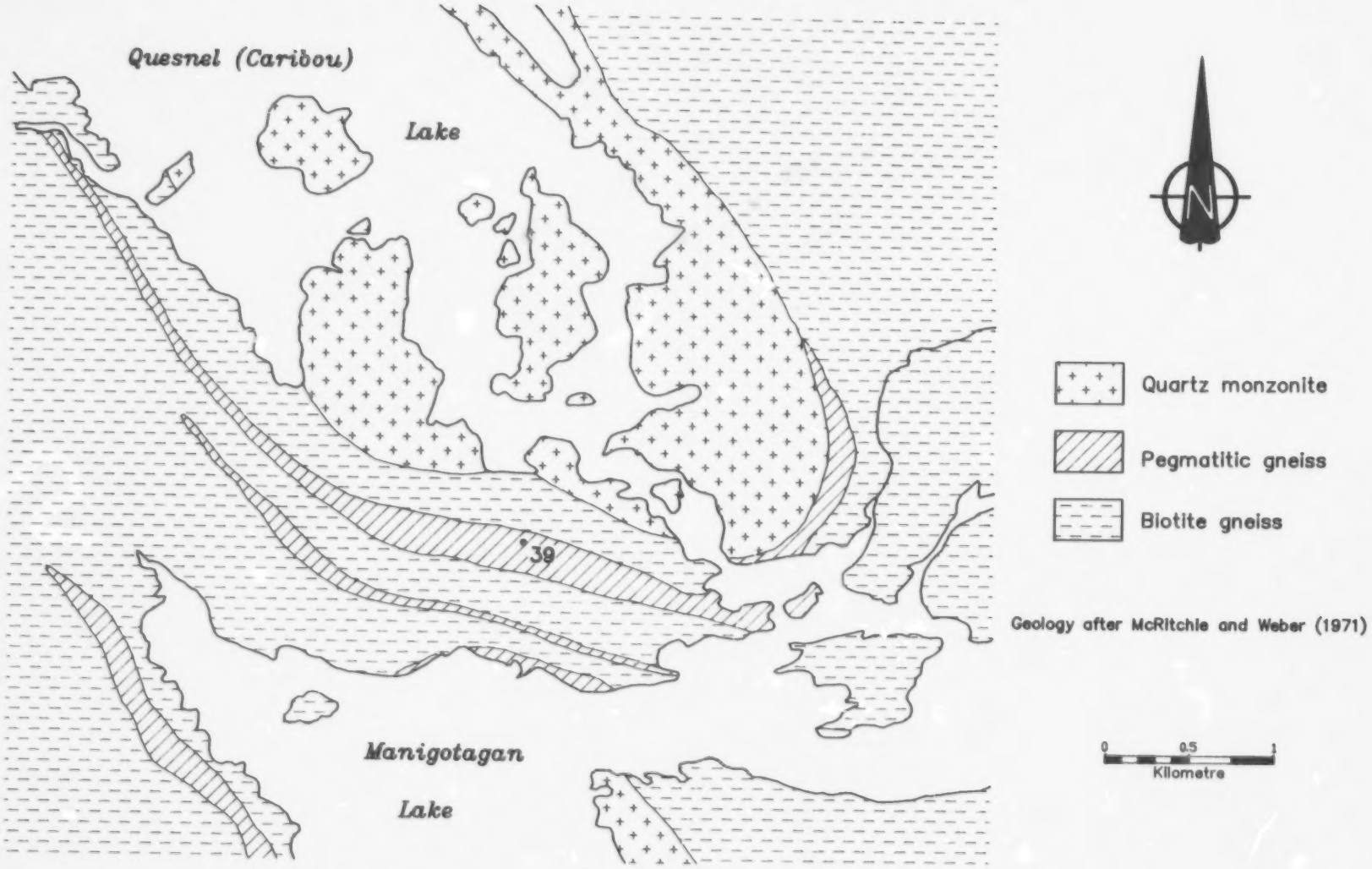



*Figure 39-1: Geological setting of occurrence 39.*

**LOCATION: 39**

NAME:
UTM: 5641500N 315840E
ACCESS: By boat on Quesnel Lake.

AREA: Between Quesnel and Manigotagan Lake (Fig. 39-1).
AIRPHOTO: A24711-105

EXPLORATION SUMMARY:

Rock trenching, sampling and geiger counter surveys were conducted in 1952 (A.F. 91106).

GEOLOGICAL SETTING:

The area is underlain by gneissic rocks and a up to 2 m thick quartz-biotite-microcline pegmatite dyke.

MINERALIZATION:

Selected biotite-rich pegmatite samples contain 0.18% $U_2O_3$ equivalent "at best". Bulk samples reportedly ranged from 0.003 to 0.022% $U_2O_3$ equivalent (A.F. 91106).

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Pegmatite type deposit.

REFERENCES:

Assessment File 91106
Manitoba Energy and Mines, Minerals Division.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

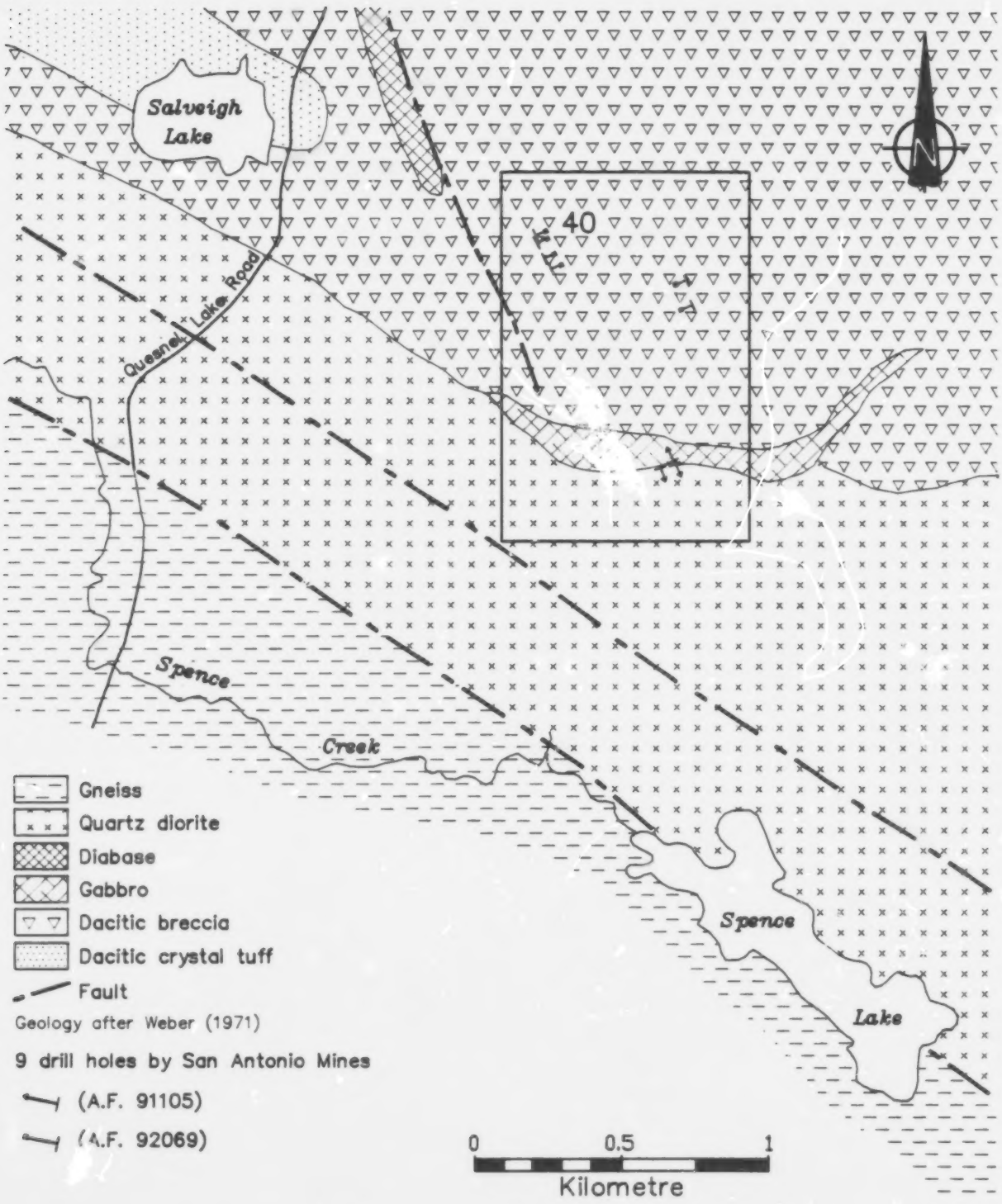



*Figure 40-1: Geological setting of occurrence 40.*

**LOCATION:** 40

**NAME:**

**UTM:** 5649050N 314630E

**ACCESS:** Via the tractor trail leading to the Gold Pan Mine (4)

**AREA:** Approximately 1 km southeast of Salveigh Lake (Fig. 40-1).

**AIRPHOTO:** A24711-100

EXPLORATION SUMMARY

Six holes (total length of 163 m) were drilled on this occurrence in 1951 (A.F. 92069). An additional three holes (total of 129.2 m) were drilled approximately 650 m to the southeast (A.F. 91105).

GEOLOGICAL SETTING:

Rocks intersected in the drill holes are fine grained andesite and porphyritic andesitic breccia. Small shear zones are characterized by quartz-carbonate-chlorite stringers. A quartz-feldspar porphyry up to 3 m thick was intersected in several of the northern cluster of drill holes.

MINERALIZATION:

Stringers and diffuse zones, up to 4 m thick, of minor disseminated pyrite are reported to occur in the northern cluster of drill holes.(AF 91105).

GEOCHEMICAL DATA:

No geochemical data has been released for either drilling program.

CLASSIFICATION:

Disseminated mineralization - not classified.

REFERENCES:

Assessment File 91105, 92069
Manitoba Energy and Mines, Minerals Division.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

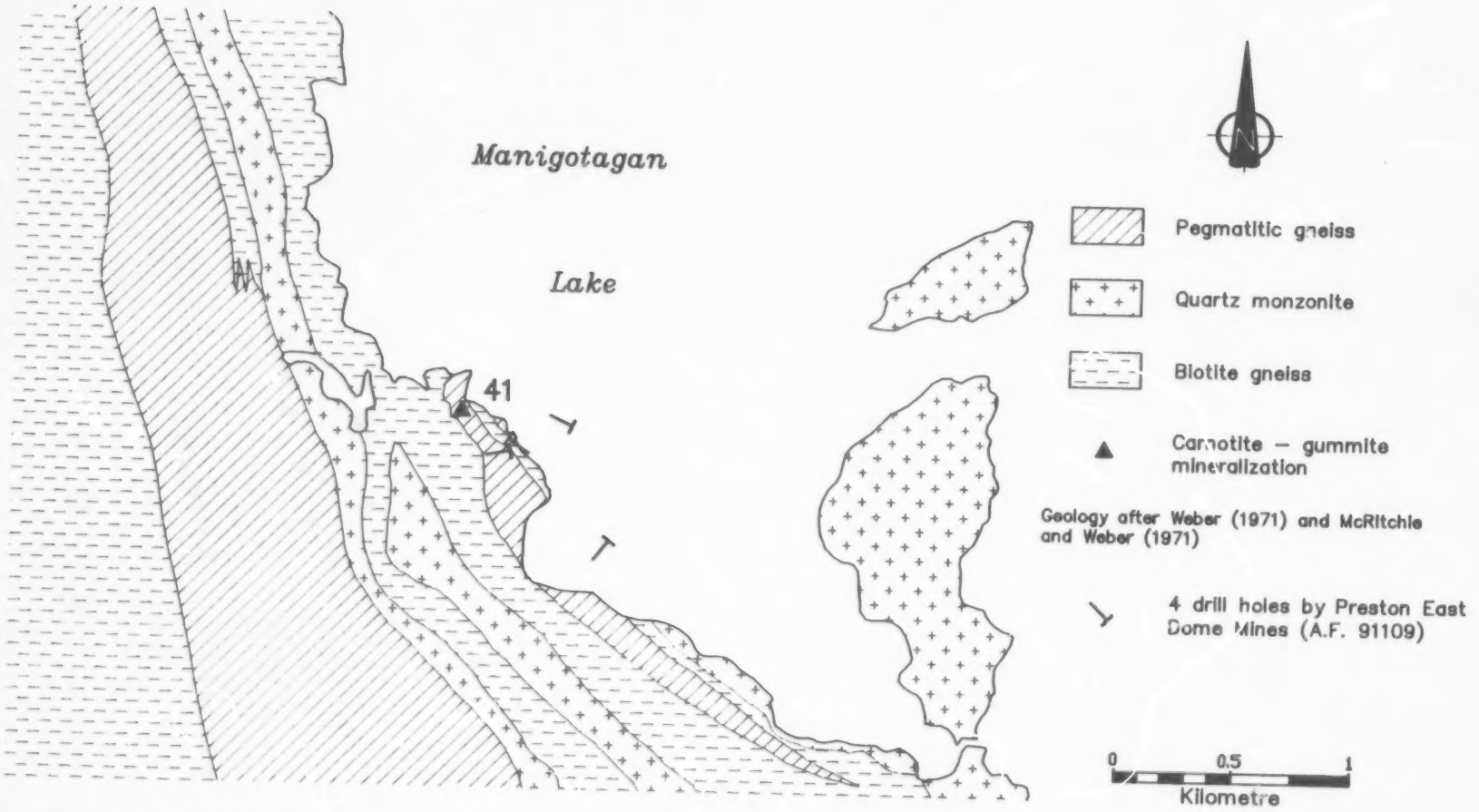



*Figure 41-1: Geological setting of occurrence 41.*

**LOCATION:** 41

NAME:

UTM: 5636200N 315450E

ACCESS: By boat via Quesnel Lake and the Manigotagan River to Manigotagan Lake..

AREA: Southwestern shore of Manigotagan Lake (Fig. 41-1).

AIRPHOTO: A24711-100

EXPLORATION SUMMARY:

Four drill holes totalling approximately 450 m were drilled in 1955.

GEOLOGICAL SETTING:

The area is underlain by pegmatite, biotite gneiss and granite.

MINERALIZATION:

The pegmatite is described as radioactive with counts of 10x to 15x background in the pits. Chemical assays (for uranium?) on drill core reportedly contained "very low"concentrations. (J.F. Davies 1955, in A.F. 91109).

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Pegmatite type deposit.

REFERENCES:

Assessment File 91109
Manitoba Energy and Mines, Minerals Division.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

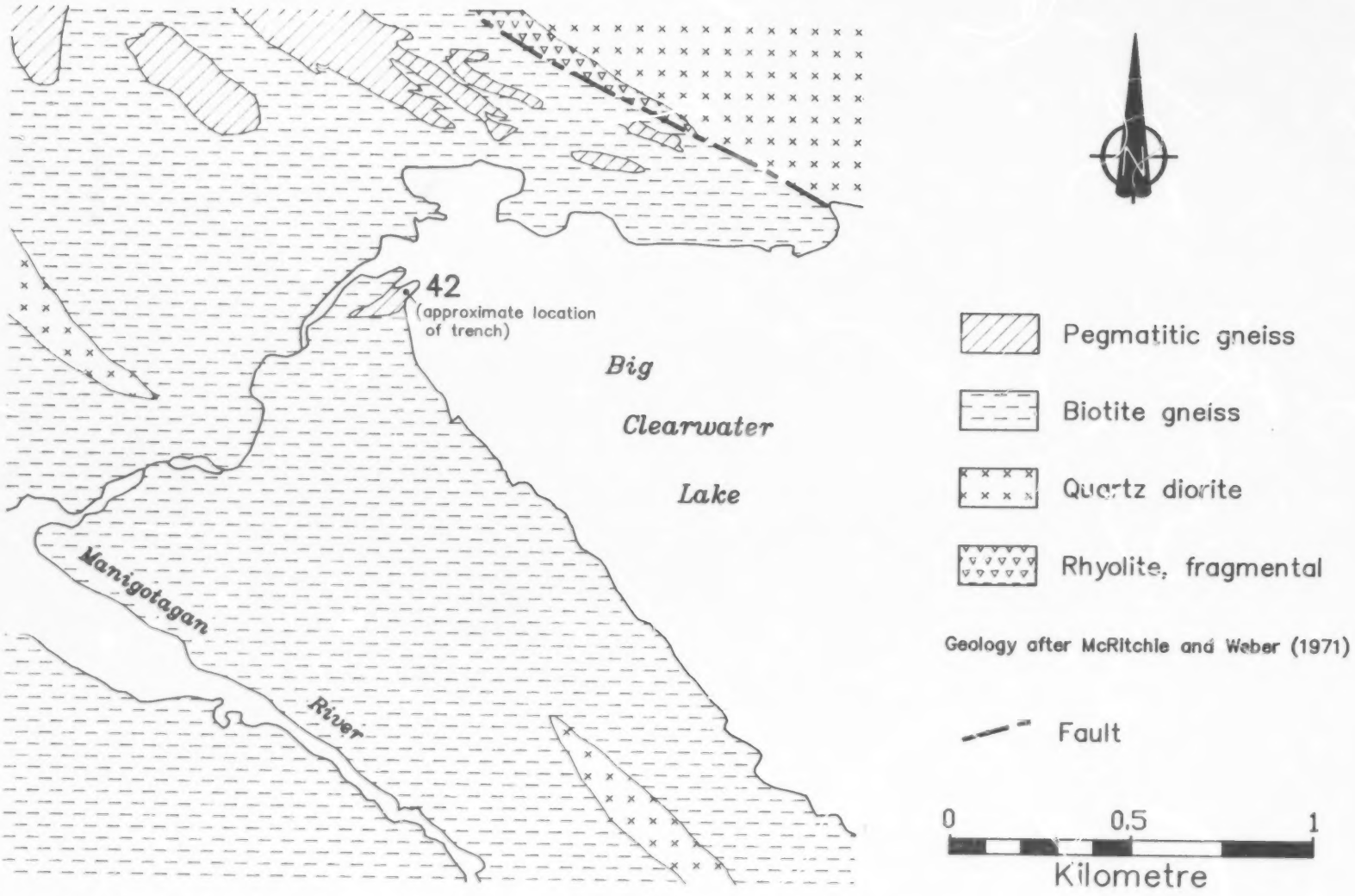



*Figure 42-1: Geological setting of occurrence 42.*

**LOCATION:** 42

NAME:

UTM: 5649980N 309050E

ACCESS: By boat on Quesnel Lake and Manigotagan River to Big Clearwater Lake.

EXPLORATION SUMMARY:

A geiger counter survey, trenching and drilling were performed on this occurrence in 1979 (A.F. 92301). No other published reference to this occurrence is known.

GEOLOGICAL SETTING:

The area is underlain by pegmatitic gneiss.

MINERALIZATION:

"Uranium values" were reported to have been found in pegmatite dykes

(A.F. 92301).

GEOCHEMICAL DATA:

None.

AREA: Western shore of Big Clearwater Lake (Fig. 42-1).

AIRPHOTO: A24713-182

CLASSIFICATION:

Pegmatite type deposit.

REFERENCES:

Assessment File 92301

Manitoba Energy and Mines, Minerals Division.

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

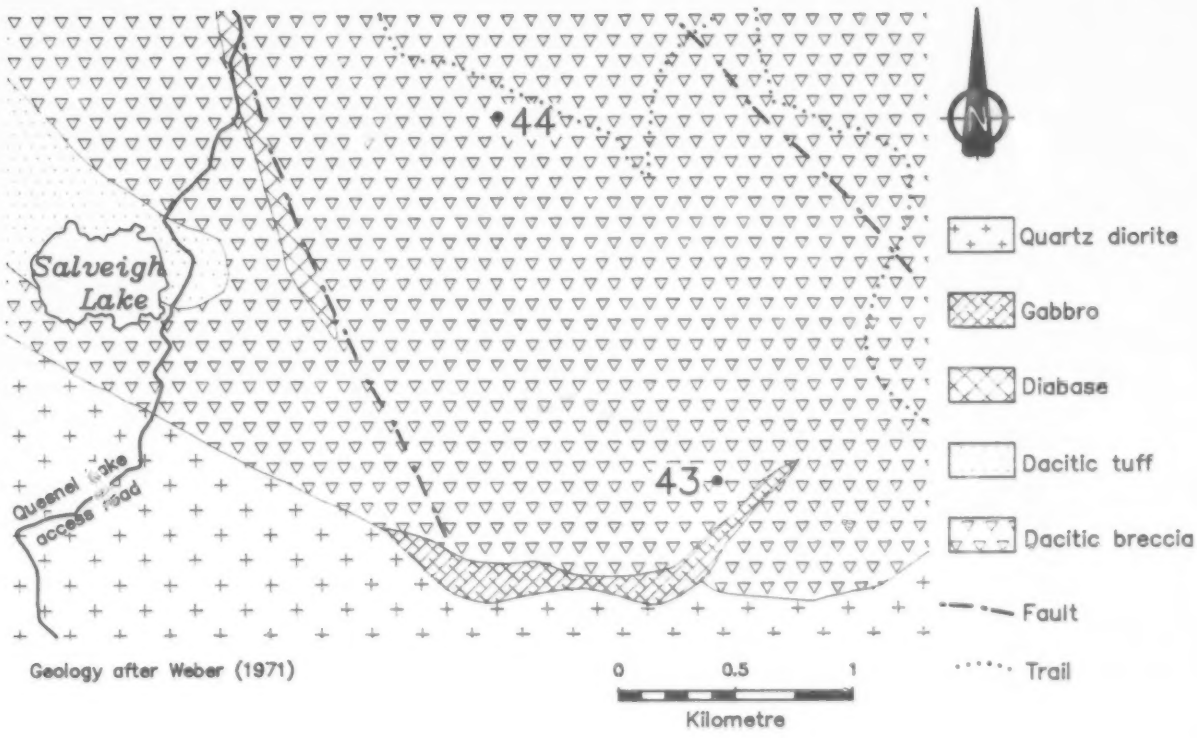



*Figure 43-1: Geological setting of occurrences 43 (Sheila) and 44 (Josephine-Mildred) (52L/13NE).*

**LOCATION:** 43

NAME: SHEILA

UTM: 5648820N 316060E

ACCESS: Walk or drive to the Gold Pan Mine (4) via the tractor trail. At this point traverse approximately 1.3 km through bush in a southerly direction.

AREA: Approximately 2.5 km south of Gold Lake (Fig. 43-1).

AIRPHOTO: A24711-100

EXPLORATION SUMMARY:

Stripping, mapping and sampling of this shear zone was done in 1983. Published records of work prior to 1983 are not available.

GEOLOGICAL SETTING:

The area is underlain by fragmental feldspar-phyric dacite that is intruded by gabbro to the south. The rocks are transected by a northwest striking shear. The shear zone, characterized by intense foliation and alteration of the host dacite, increases from approximately 1 m in the north to more than 2 m wide in the south. Lensoidal discontinuous sugary white to translucent quartz veins occur throughout most of the shear.

MINERALIZATION:

The sheared feldspar-phyric dacite is bleached, silicified and contains approximately 1% disseminated fine grained pyrite. Vein quartz contains ankerite and traces of sphalerite in addition to approximately 0.5% disseminated pyrite. The relative amount of sulphide mineralization increases from north to south.

GEOCHEMICAL DATA:

A total of 12 grab and chip samples were collected from vein quartz and rocks in the shear zone. Analyses indicate erratically distributed concentrations of gold that range from nil to 30.17 g/tonne (See Fig. 43-2).

CLASSIFICATION:

Vein type deposit with multiple quartz lenses.

REFERENCES:

Assessment File 92752
Manitoba Energy and Mines, Minerals Division.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

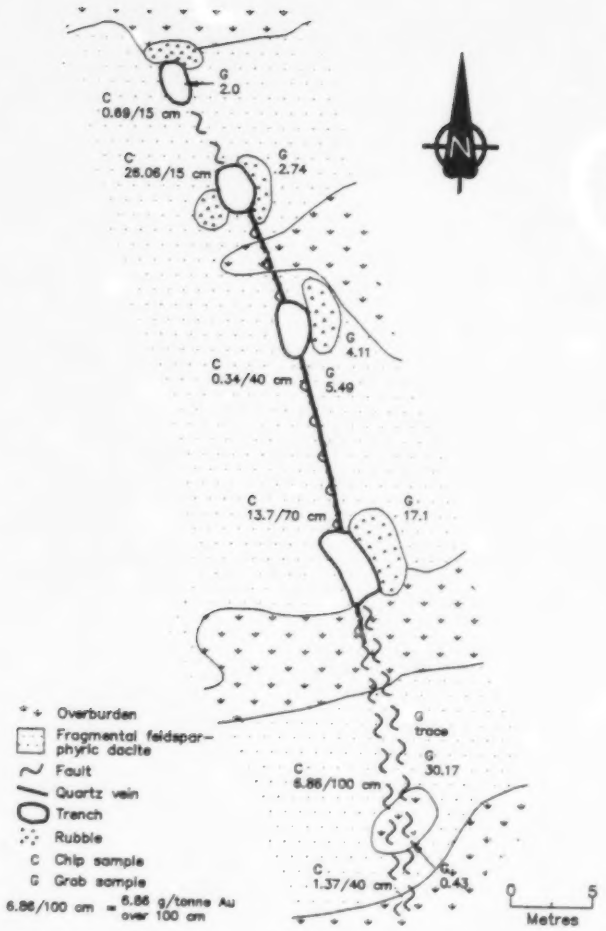



*Figure 43-2: Trench and sample locations at occurrence 43 (Sheila).*

**LOCATION:** 44

NAME: JOSEPHINE - MILDRED

UTM: 5650180N 315108E

ACCESS: Via the Gold Lake (Pilot - Smuggler) tractor trail and a winter road. (See appended airphotos)

AREA: Approximately 1.6 km southwest of Gold Lake (Fig. 43-1).

AIRPHOTO: A24711-100

EXPLORATION SUMMARY:

The property was staked in 1914. Exploration activity included trenching prior to and during 1936. A limited trenching program was carried out in 1980.

GEOLOGICAL SETTING:

A shear zone transects trachytic breccia intruded by quartz-feldspar porphyry of the Rice Lake Group.

MINERALIZATION:

The shear zone strikes 340° and contains an intermittently exposed quartz vein that is up to 3 m thick and several smaller parallel quartz veins.

Pyrite (up to 2%) occurs in isolated pockets within the vein quartz. Ankerite and traces of chalcopyrite occur in both the vein quartz and wall rocks.

GEOCHEMICAL DATA:

Channel samples from this property taken in 1936 averaged 11.6 g/tonne gold over an average of 2.1 m; chip samples assayed 17.1 g/tonne or better (Mineral Inventory Card 52L/13NE Au8). The analyses of three grab samples taken in 1988 are presented below (Sample locations are shown on Fig. 44-1).

**Table 44-1: Gold analyses; mineral occurrence at location 44**

| Sample. No. | Description | Au |
|---|---|---|
| 51-8-6 | quartz rubble; 2% pyrite | 3 (g/tonne) |
| 51-8-7 | quartz rubble; 2% pyrite | 14 (g/tonne) |
| 51-8-8 | quartz rubble; 1% pyrite | 1.8 (g/tonne) |

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Davies, J.F.
1953: Geology and gold deposits of southern Rice Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 52-1, 41 p.

Mineral Inventory Card 52L/13NE Au8
Manitoba Energy and Mines, Minerals Division.

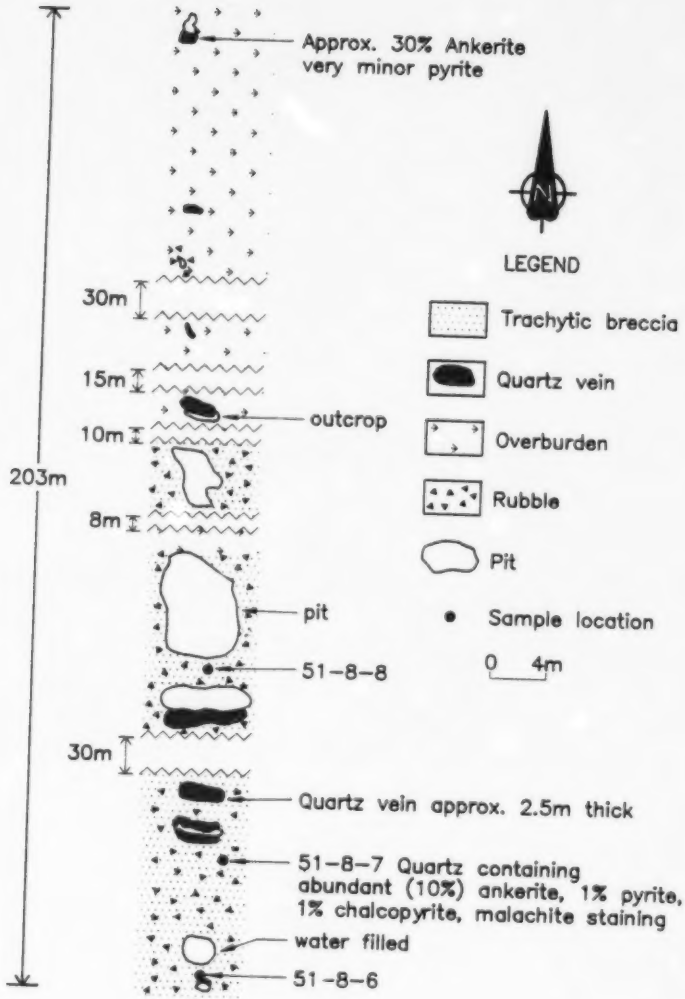



*Figure 44-1: Trench and sample location at occurrence 44 (Josephine-Mildred).*

**LOCATION:** 45

**NAME:**

UTM: 5651160N 314000E

ACCESS: Walk approximately 0.5 km north on the abandoned powerline from its intersecion with the Quesnel Lake access road. Occurrence 45 is located a few metres west of this point.

EXPLORATION SUMMARY:

There are no assessment or published records for this occurrence. Six shallow pits were discovered in 1984.

GEOLOGICAL SETTING:

Distorted, foliated and silicified dacitic rocks associated with a northwest trending shear zone contain discontinuous thin (1-5 cm) quartz ribbons, lenses and stocks.

MINERALIZATION:

Randomly distributed traces of pyrite occur within the vein quartz.

GEOCHEMICAL DATA:

A grab sample (51-4-B21) that contains rust stained quartz-carbonate vein material with approximately 1% pyrite contained 19 ppb gold.

AREA: Approximately 0.5 km north of the junction of the Quesnel Lake access road and the abandoned powerline (Fig. 45-1).

AIRPHOTO: A24713-50

CLASSIFICATION:

Vein type deposit with multiple quartz lenses.

REFERENCES:

Weber, W.

1971: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

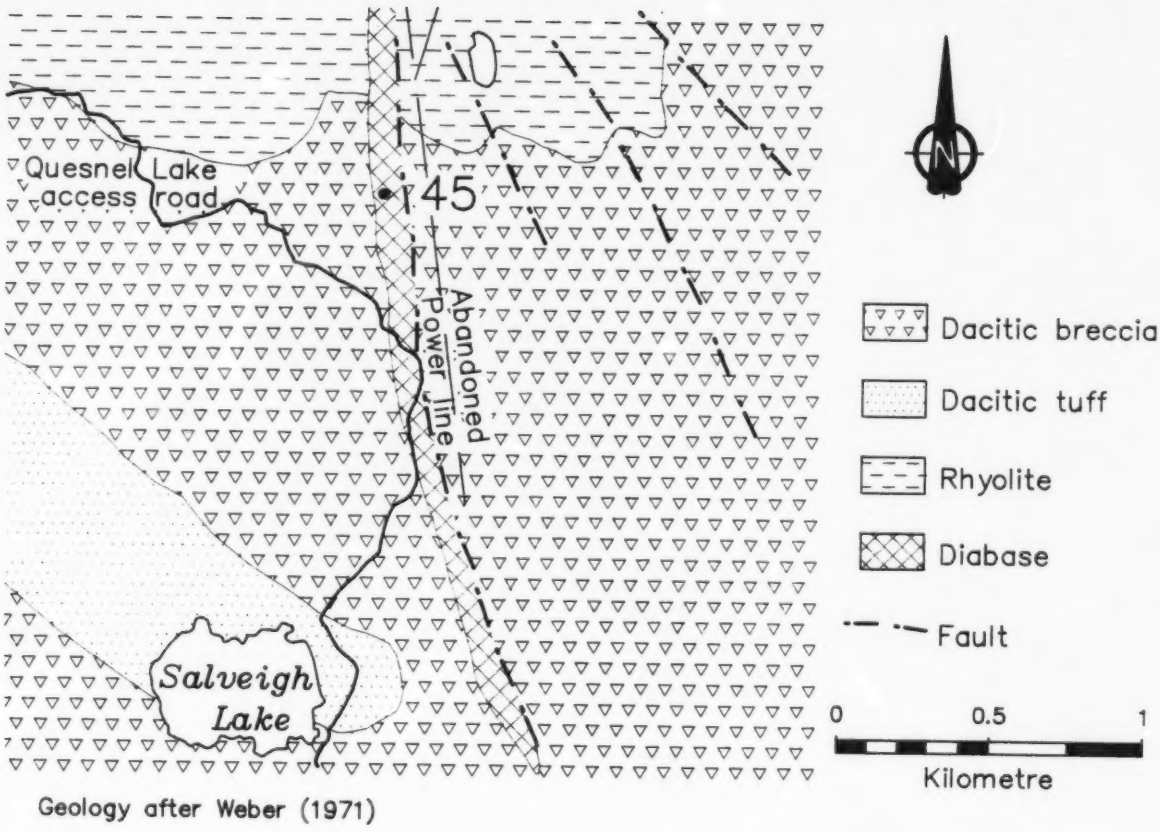



*Figure 45-1: Geological setting of occurrence 45.*

**LOCATION:** 46

NAME:

UTM: 5650980N 312020E

ACCESS: Via the Quesnel Lake access road to a bush trail leading to the site.

AREA: Approximately 1.7 km northwest of Salveigh Lake (Fig. 46-1).

AIRPHOTO: A24713-48

EXPLORATION SUMMARY:

Eight holes (total length of approximately 900 m) were drilled on this property in 1954 (AF 91103).

GEOLOGICAL SETTING:

The area is underlain by porphyritic andesite transected by a northwest striking 0.5-1 m thick fracture zone. The fracture zone was traced along strike for approximately 800 m.

MINERALIZATION:

The fracture zone contains quartz and carbonate veins, sphalerite, pyrite and chalcopyrite (AF 91103).

GEOCHEMICAL DATA:

None available.

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Assessment File 91103
Manitoba Energy and Mines, Minerals Division.

Weber, W.
1971: Geology of the Wanipigow River-Manigotagan River region; in Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, eds.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Map 71-1/4, 1:63 360, (compilation map).

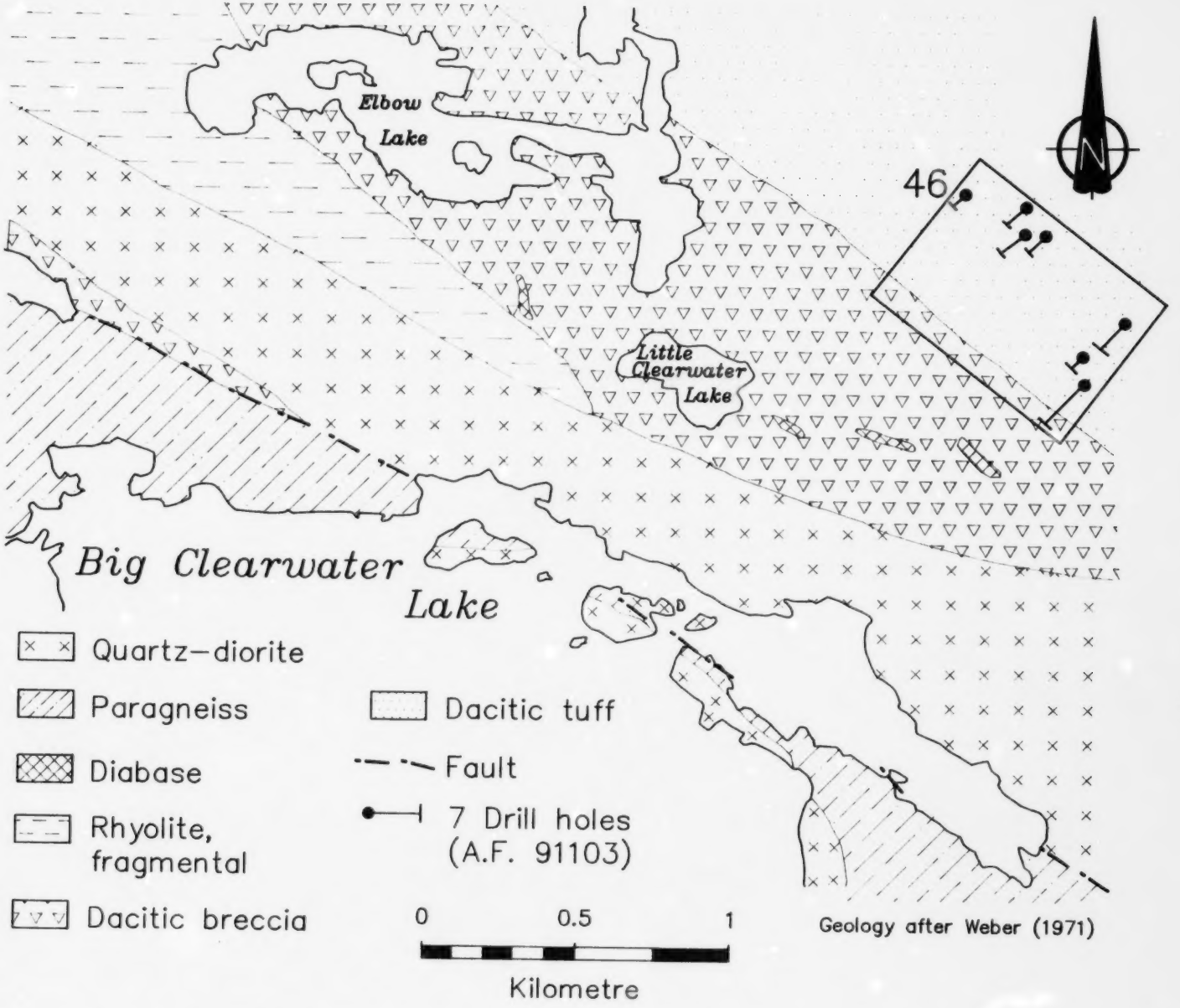
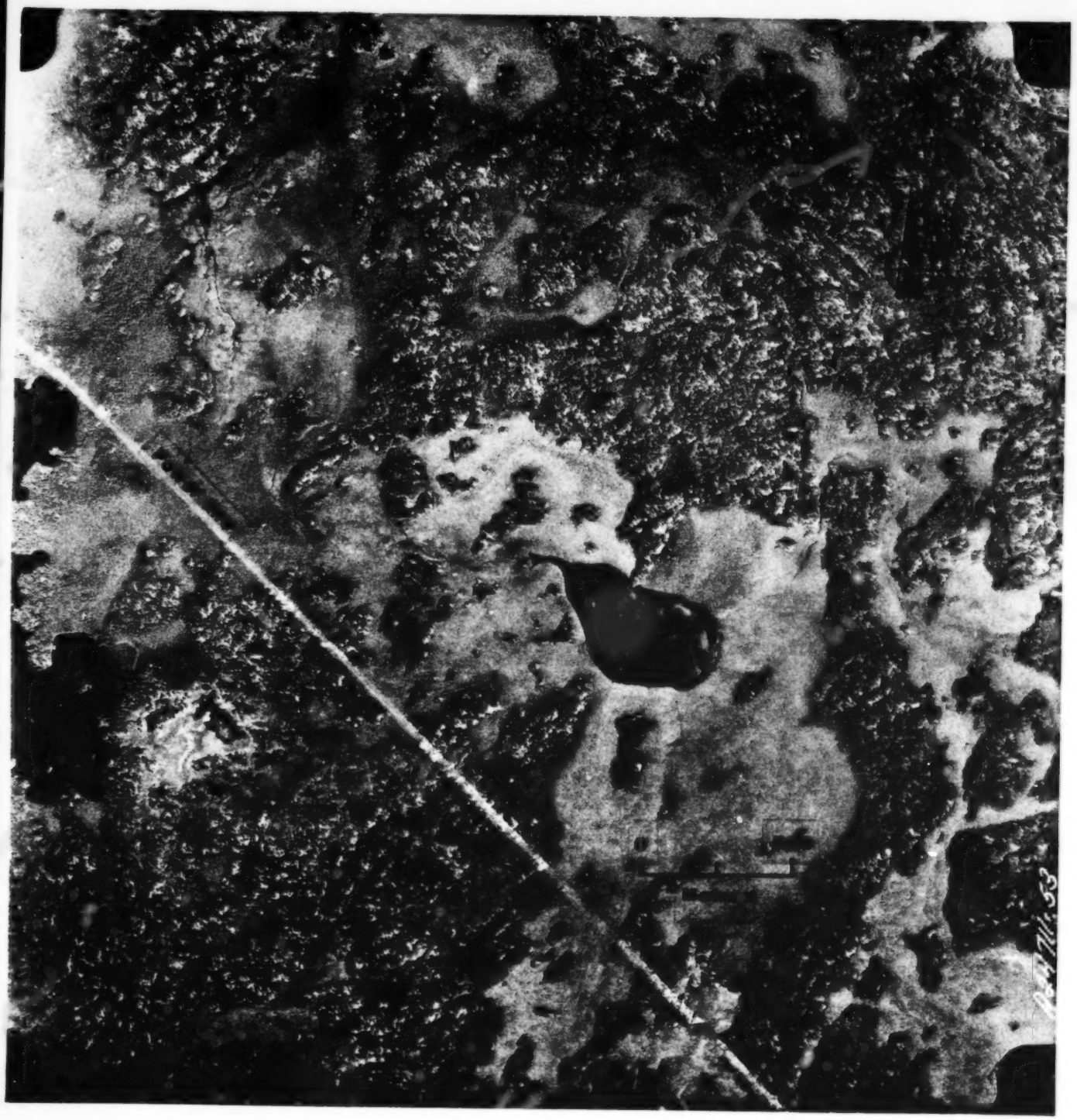



*Figure 46-1: Geological setting of occurrence 46.*

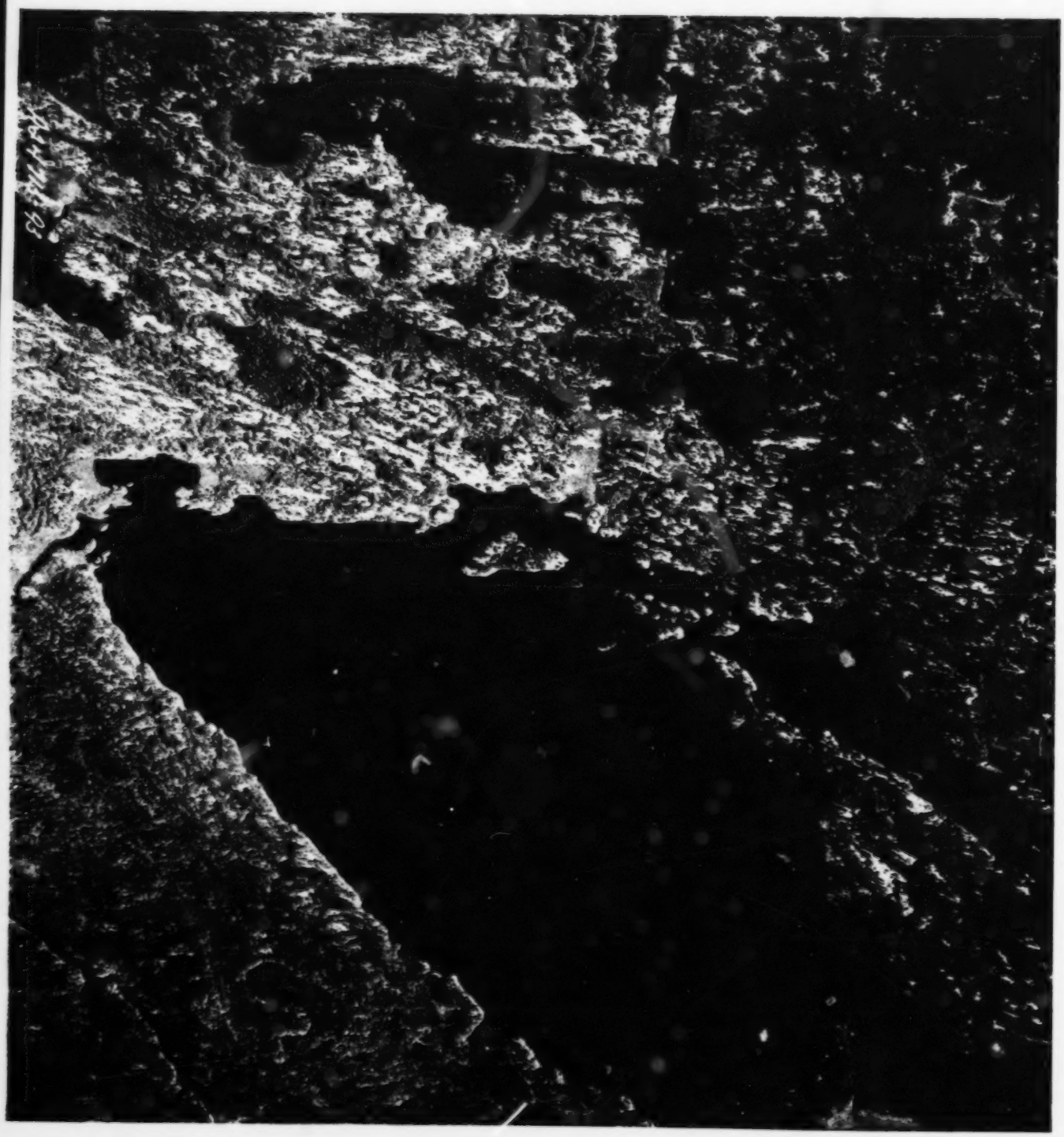
## APPENDIX I

**Location of Mineral Deposits and Occurrences Recorded on Airphotos**

AQ4713-50



Lake



0
500
Metres

MAPS
NOT
FILMED

CARTES
OMISES